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BRITISH MUSEUM
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NATURAL HISTORY.

PROCEEDINGS

OF THE

Bournemouth Natural Science Society.

VOL. XVIII.

SESSION, 1925-26.

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Bournemouth Natural Science Society.

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PUBLISHED BY THE SOCIETY AT ITS HOUSE,
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BRITISH MUSEUM
NATURAL HISTORY

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Introductory Note.

THE Bournemouth Natural Science Society was founded in 1903, being the successor to an older society which was formed in 1883 and dissolved in 1897. The early meetings of the Society were held in a room hired from time to time for the purpose, but the need of some fixed quarters was soon felt. To meet this need a small room was taken at 122, Old Christchurch Road, and, as this proved inadequate, in February, 1909, better accommodation was secured at Granville Chambers and retained for four years. In March, 1913, the Society took on lease from the Education Committee a large room on the ground floor of the Municipal College. In 1919 this also had to be given up, and the Society succeeded in acquiring a house of its own, 39 Christchurch Road. The formal opening was on February 7, 1920.

The objects of the Society are declared by the second of its rules to be " the promotion of the study of Science in all its branches, by means of Lectures, Field Meetings, the Reading and Discussion of Papers, and the formation of Sections of its members devoted to any particular branch of the Society's work, and in any way that the Council of the Society shall deem advisable."

The Sections at present working are as follows:— **Archæological and Historical, Botanical, Entomological, Geographical, Geological, Microscopical, Photographic and Record, Physical, and Zoological.**

During the WINTER SESSION, from **October to April**, GENERAL and SECTIONAL MEETINGS are held, comprising Lectures and Demonstrations on subjects of scientific interest, illustrated by lantern slides, diagrams, specimens or experiments.

All meetings are open to all members of the Society.

Throughout the SUMMER SESSION, EXCURSIONS to places of interest in the neighbourhood are arranged and indoor or garden meetings occasionally held.

The management of the Society is vested in a Council, which is elected at the Annual General Meeting, held in October.

The Society possesses a Library available for the use of members. This is yearly becoming more extensive and valuable by the acquisition of standard text books and of books dealing with matters of local scientific interest. Books may, under certain conditions, be borrowed by members, and there is a Reading Room in which works of reference may be consulted.

The Society's collections of archæological, botanical, geological, zoological and other specimens are now arranged in the MUSEUM. Articles on the collections were contributed to Vols. V. X. and XVII. of the Proceedings by Sir Daniel Morris, Mr. W. G. Wallace and Rev. C. O. S. Hatton respectively.

Members are elected by the Council and pay an annual subscription of £1 for full membership (admitting to all meetings and excursions for the year), a subscription of £2 covers four adult members of the same family residing in the same house.

A MONTHLY NOTICE, giving full details of all meetings, etc., is posted to every member before the beginning of each month, and a volume of Proceedings is published every year.

Application Forms for Membership, and further particulars, can be obtained from the

HON. SECRETARY,
Bournemouth Natural Science Society,
39, Christchurch Road,
Bournemouth.

Bournemouth Natural Science Society.

OFFICERS AND COUNCIL FOR 1925-26.

President

HUBERT PAINTER, B.Sc., F.C.S.

Vice-Presidents

Henry Backhouse, F.R.H.S.
G. E. J. Crallan, M.A., M.B., M.R.C.S.
Rev. E. F. Linton, M.A., F.L.S.
Claude Lyon
F. G. Penrose, M.D., F.R.C.P., F.Z.S., M.B.O.U.
R. V. Sherring, F.L.S.
Sir Daniel Morris, K.C.M.G., J.P., M.A., D.SC., D.C.L., LL.D., F.L.S.

Chairman of Council

J. H. Ralph Smythe, J.P.

Deputy-Chairman of Council

Rev. C. O. S. Hatton, B.A., F.L.S.

Council

The Officers and Chairmen of Sections (ex-officio)

Henry Backhouse, F.R.H.S.
Mrs. Curme
J. M. French
J. B. Hurry, M.A., M.D.
F. W. Longbottom, F.R.A.S.
Miss S. G. Rooke
J. H. Scott, M.E., M.I.M.C.E.
R. V. Sherring, F.L.S.
Rev. E. J. Douglas Simpson, M.A.
J. H. Ralph Smythe, J.P.
J. F. Spencer
W. J. Woodhouse

Chairmen of Sections

Archæological and Historical: Col. J. R. Dodd, M.D., F.R.C.S.
R. K. Cardew, B.A. (*Acting*).
Astronomical and Mathematical: B. M. Peek, M.A., F.R.A.S.
Astronomical: G. E. J. Crallan, M.A., M.B., M.R.C.S. (*Acting*).
Botanical: Howard Lacey, B.A.
Entomological: Joseph Neale, B.A.
Geographical: Claude Lyon.
Geological: Henry Bury, M.A., F.L.S., F.G.S.
Microscopical: F. B. Taylor, B.A.
Photographical and Record: W. Dieselhorst, A.M.I.C.E.
Physical: Hubert Painter, B.SC., F.C.S.
Zoological: F. G. Penrose, M.D., F.R.C.P., F.Z.S., M.B.O.U.

Hon. Treasurer

G. Brumell, A.R.I.B.A., Maori, 15 Richmond Park Avenue.

Secretaries

Joint Hon. Secretaries: R. A. de Paiva, San Remo, 13 Carysfort Road.
Rev. A. G. Yates, M.A., R.N., 14 Wellington Road.
to whom all official correspondence should be addressed.
Hon. Assistant Secretary: W. J. Woodhouse, A.C.P., M.I.H., 35 Chatsworth Road.
Assistant Secretary: J. F. Spencer, Glenthorne, Richmond Park Road.

Hon. Librarian

Claude Lyon, Shalimar, Wilderton Road.
Hon. Assistant Librarian : Miss A. G. Veale, 2 Richmond Park Crescent.

Hon. Editor

J. R. White, M.A., Whitecot, Linwood Road.

Hon. Curator

Rev. C. O. S. Hatton, B.A., F.L.S., Hinton Vicarage, Christchurch.

Hon. Auditors

E. Bicker. C. H. Blackett.

Bankers

National Provincial Bank of England, Bournemouth.

List of Members.

Revised to 1st November, 1926.

* HONORARY MEMBERS. † PAST PRESIDENTS. O ORIGINAL MEMBERS.
G MORRIS GOLD MEDALLIST. A ASSOCIATE MEMBERS.
The year of election is given before the name of each member.

A

1924	Amos, Miss E.	Langley Dene, 55 Wellington Road
1920	Anderson, Col. E. B., C.B.E.	Woodmanton, 35 Wellington Road
1922	Anderson, Col. R. F.	Glenalmond, 5 Madeira Road
1923	Anderson, Mrs.	,, ,, ,,
1923	Anderson, Mrs. M.	Ranfurly, 18 Dean Park Road
1914	Andrews, W.	44 Talbot Road
1905	Archer, J. W.	Windlesham, 5 Braidley Road
1905	Archer, Mrs.	,, ,,
1921	Aston, Mrs.	The Wigwam, Redhill Heights, Bournemouth.
1926	Aston, G. R.	,, ,, ,,
1911	Atkins, Mrs.	10 Fortescue Road
1924	Attwell, A. F., M.P.S.	17 Hamilton Road
1926	Audain, Mrs. N. M.	Tregonwell Towers

B

1906	Backhouse, H., F.R.H.S.	Sundridge, Grove Road
1922	Barker, S.	66 West Cliff Road
1921	Barker, Miss W.	,, ,,
1905	Barlow, E. W., B.SC., F.R.A.S., F.R. MET. S.	Greengates, Wadhurst, Sussex
1912	ABarraclough, A., M.A., F.R.G.S.	173 Richmond Park Road
1909	Barratt, J. Hayes	Brundon, 2 Surrey Road
1924	Barratt, Mrs.	,, ,,
1924	Barratt, Miss P. M.	,, ,,
1905	Bartlett, H. F. D., F.E.S.	Island of St. Helena, South Atlantic
1920	Bartlett, P. R.	35 King's Park Road
1925	Beale, Mrs. J. B.	Deep Dale, 41 Surrey Road
1918	ABeaumont, Miss E. J.	12 Sunnyhill Road, W. Southbourne
1925	Beausire, Miss E.	Highfield, 43 Hawkwood Road, Boscombe
1923	Bell, Major J. G.	Ivanhoe, Sandringham Road, Parkstone
1923	Benest, Mrs. A. S.	Tijuca, 54 Wellington Road
1920	Bennett, Risdon, M.A.	Yew Tree Cottage, Broadstone
1904	Bennett, H. Morden	Sweet Briar, 12 Derby Road
1921	Bevan, F. M.	17 Stirling Road
1913	Bilton, Miss C. E.	Dilkhush, 25 Parkwood Road, Boscombe
1923	Bishop, E.	21 Surrey Road
1912	Blackall, Miss E. E.	10 Harcourt Road, Boscombe Park
1908	Blackett, C. H.	Ladbroke, Chine Crescent
1910	*Bond, F. Bligh, F.R.I.B.A.	454 Gloucester Road, Bristol
1920	Borrett, Surgeon Capt., G. G., R.N.	62 Alum Chine Road
1924	Borrett, Mrs.	,, ,,
1924	Borrett, Miss J.	,, ,,
1925	Borrow, Frederick	The Knoll, Charminster Road
1925	Borrow, Mrs.	,, ,,
1924	Bottomley, Miss O.	Langley Dene, 55 Wellington Road

1920	ABourne, Miss C. M.	55 Sunny Hill Road, Southbourne
1914	Bradbury, Miss	La Bocca, 2 Portarlington Road
1914	Bradbury, Miss A.	,, ,,
1914	Bradbury, Miss E.	,, ,,
1925	Bradley, F. L.	Holmwood, 12 Chine Crescent Road
1924	Bragg, Miss H. B.	4 Chester Road
1924	Bragg, Miss R.	,, ,,
1924	Bragg, Miss S. B.	,, ,,
1908	Brazier, J. J.	Fairlawn, 48 Lowther Road
1922	Brewitt-Taylor, Mrs. Ray	Branksome Lodge, 6 Forest Road, Branksome Park
1921	Bromley, Miss	81 Lansdowne Road
1917	Brown, Edward	West Ridge, Chessel Avenue
1917	Brown, Mrs.	,, ,,
1926	Brown, Lt.-Col. F. Tatton	Talbot Hurst, 3 Branksome Hill Road
1924	Brown, Miss F.	Chobham House, 4 St. Winifred's Road
1924	Brown, Miss E.	,, ,, ,,
1924	Brown, Miss E. S.	,, ,, ,,
1923	Browne, John	Serantes, Glen Road, Boscombe
1924	Browning, Miss E. M.	Littleholm, Ferndown
1905	Brumell, G., A.R.I.B.A.	Maori, 15 Richmond Park Avenue
1920	Brumell, Mrs.	,, ,, ,,
1923	Brumell, F.	,, ,, ,,
1920	Brumell, Miss M.	,, ,, ,,
1920	Bryant, Miss M.	Sunnyhill, Hampden Lane, W. Southbourne
1907	Bulfin, Ignatius, B.A.	The Den, 26 Knole Road
1908	Bulfin, Mrs.	,, ,,
1924	Burgess, J.	Kempston, Chine Crescent Road
1924	Burroughs, F. G.	63 Maxwell Road
1919	Burstal, E., M.D.	46 Lansdowne Road
1922	Burton, E. St. John, F.Z.S., F.G.S.	Melville, 4 Howard Road
1922	Bury, Henry, M.A., F.L.S., F.G.S.	The Gate House, 17 Alumdale Road
1924	Bury, Mrs.	,, ,, ,,
1924	Bury, Miss G. E.	,, ,, ,,
1924	Bury, Miss H. S.	,, ,, ,,
1922	Byrde, R. W.	Bracken House, 1 Bracken Road, West Southbourne
1923	Byrde, Mrs.	,, ,, ,,

C

1910	Cameron, Miss	Little Forest House, 19 Bath Road
1924	Campbell, Mrs.	Pinehurst, Broadstone
1924	Cardell, G., L.D.S.	Exeter House, The Square
1919	Cardew, R. K., B.A.	Stafford Lodge, 26 Dean Park Road
1920	Cardew. Mrs.	,, ,, ,,
1922	Carter, R. E.	Lawnswood, 12 Beechey Road
1912	Carus-Wilson, C., F.R.S., Edin., F.G.S.	Altmore, Waldegrave Park, Strawberry Hill, Middlesex, and Royal Societies' Club, S.W.
1922	Caudwell, W., F.R.C.V.S.	St. Gratien, 70 Lowther Road
1925	Chilver, Mrs. E. K.	2 Shaftesbury Road
1912	AChilver, Miss K. M.	,, ,,
1926	Clare, Mrs.	48 Queen's Park West Drive
1922	Claridge, J. E. W., LL.C.M.	Leigh House, Wimborne
1911	Clark, Walter Child	Michelgrove House, Boscombe
1908	Coddington, E. F.	34 Irving Road
1921	Colborne, E. A.	11 Cambridge Road
1911	Collins, W. F.	Vellore, Overcliff Drive
1926	Connah, J., B.SC., F.I.C.	20 Burnaby Road

1912	Cooper, Ernest	100 Old Christchurch Road
1909	Cooper, J. Omer, F.E.S.	Zoological Laboratory, New Museums, Cambridge
1908	Cooper, Rev. W. H. Windle, M.A., F.R.G.S., F.R.H.S.	Owthorpe, 21 Branksome Wood Road
1926	Cooper, H. A.	25 Talbot Avenue.
1926	Cooper, Mrs.	,, ,,
1926	Cooper, A. H.	,, ,,
1926	Cooper, Miss S. I.	,, ,,
1926	Cooper, James	The Little Red House, Colehill, Wimborne
1916	Cowell, G. E.	Hawthorns Hotel, West Cliff Road
1903	†oCrallan, G. E. J., M.A., M.B., M.R.C.S.	St. Cross, 13 Bodorgan Road
1922	Crallan, Mrs.	,, ,,
1920	Cressy, Miss H.	Bramcote, 1 Glen Road, Boscombe
1922	Crowther, Miss V.	Berwyn Bank, Poulner Hill, Ringwood
1913	Curme, Mrs.	New Bohemia, 1 Nelson Road
1922	Curme, Miss E. M.	,, ,,
1903	oCurtis, W. Parkinson, F.E.S.	Drake North, Sandringham Road, Parkstone
1922	*Elected an Honorary member	

D

1922	Dalton, Mrs. E.	Lindum Lodge, 10 Milton Road
1920	Darke, Miss W. E.	25 Hawkwood Road, Boscombe
1922	Davey, J. Hingston	10 Studland Road
1921	ADavies, Miss H. V., B.SC.	Municipal College
1919	Davison, Miss L.	15 Dean Park Road
1924	Dawson, Miss A. M.	6 Cavendish Place
1924	Dawson, Miss F.	,, ,,
1926	Dawson, Miss L. N.	Miranda, Carbery Avenue
1924	Deas, J., M.A., I.C.S.	57 Wellington Road
1910	de Castro, Mrs.	Sunnydene, 76 Drummond Road
1918	Dence, Miss F. M.	Birk House, Wollstonecraft Road
1914	Dickson, Col. W. D., J.P.	Southill, 32 Dean Park Road
1914	Dickson, Mrs.	,, ,,
1919	Dieselhorst, W., A.M.I.C.E.	50 Surrey Road
1924	Dieselhorst, Mrs.	,, ,,
1903	o*Dixon, J. R. L., M.R.C.S., L.R.C.P.	
1920	Dodd, Col. J. R., M.D., F.R.C.S.	140 Richmond Park Road
1921	Dodd, Mrs.	,, ,,
1921	Dodd, T. A.	,, ,,
1910	Dodshon, E., LL.B.	126 Old Christchurch Road
1926	Dodwell, Mrs. L. B.	Crendon, Carbery Avenue, West Southbourne
1923	Druitt, Alan	Willow Lodge, Mudeford, Christchurch
1923	Druitt, Mrs.	,, ,, ,, ,,
1904	Druitt, J., J.P.	Avebury, 10 Madeira Road
1925	Druitt, Miss C. M.	,, ,, ,,
1925	Druitt, Miss C. S.	,, ,, ,,
1922	Duncan, H. J.	The Mount, 17 Branksome Wood Road
1922	Duncan, Mrs.	,, ,, ,, ,,
1926	Dundee, Mrs. A. E. M.	Landi Kotal, Roseville Street, Jersey
1921	Dunn-Gardner, R. C.	15 Queensbury Place, S. Kensington, S.W. 7
1924	ADyer, Miss G. B.	Victoria Home School, 37 Burnaby Road

E

1926	Eastwood, Mrs. G. B., F.L.S.	Heathlands, East Cliff
1925	Edwards, A. D., M.B., B.S., B.SC., D.P.H.	11 Hawkwood Road, Boscombe

1924	Edwards, Miss M. J.	Aysgarth, 16 Poole Road
1923	Ellen, Miss D. M.	Staunton, Exeter Park
1922	Ellis, H., F.R.A.S.	Branksome Lodge, 6 Forest Road, Branksome Park
1922	Ellis, Mrs.	,, ,, ,, ,,
1922	Ellis, Miss W. M.	,, ,, ,, ,,
1920	Ellis, J. C.	Whyte Gables, Highcliffe, Christchurch
1923	Elrington, R.	Mavis Bank, 15 Bodorgan Road
1923	Elrington, Mrs.	,, ,,
1922	Elwes, Mrs.	Burnt Hill, Broadstone, Dorset
1924	Ensor, Major F. W., M.A., B.C.L.	26 Frederica Road, Winton
1924	Ensor, Mrs.	,, ,,
1909	Evans, P. H. L., M.A.	Stirling House, 28 Manor Road

F

1924	Faber, W., F.Z.S.	Midwood, 64 Christchurch Road
1920	Fairbrother, Miss L.	Knole Hall High School for Girls, Knyveton Road
1921	Fane, F. L.	13 Littledown Road
1925	Farie, Miss C. M.	Streate Place, St. Peter's Road
1921	Farmar, Miss D. A.	Dorset Lodge, 10 Suffolk Road
1919	Farmar, Mrs. K. A.	Whitton Lodge, Stevenson Crescent, Parkstone
1922	Farmar, Miss E. A.	,, ,, ,, ,,
1914	Fielding, T., M.D.	Genesta, West Hill Road
1903oA	Firbank, Miss, LL.A., A.C.P.	5 Buchanan Avenue
1922	Fonblanque, Miss Ida	4 Gordon Road
1917	Forrest, Mrs.	Hillsborough, 36 Westbourne Park Road
1925	Fountain, E. D., L.R.C.P., M.R.C.S.	Vron, 30 Mansfield Road, Parkstone
1925	Fountain, Mrs.	,, ,, ,, ,,
1922	Fowler, A. R. W., B.A.	St. Ina, Beechwood Avenue
1922	Fowler, Mrs.	,, ,, ,,
1919	Fowler, Miss M.	Lerryn, Chessel Avenue
1925	Fowler, Miss R.	,, ,,
1910	Frean, Mrs.	Cranicombe, Branksome Avenue
1915	Frean, Miss E.	,, ,,
1924	Freer, Miss L. W.	9 Cambridge Road
1909	French, J. M.	Jumpers House, Christchurch
1925	Frost, John	The Manchester, S. Michael's Road
1923	Fryer, Miss C. H.	Moulton, 46 Wellington Road

G

1922	Gardiner, Miss F. M.	3 Adeline Road, Boscombe
1917	Garnett, H. A.	18 Campbell Road, Boscombe
1917	Garnett, Mrs.	,, ,,
1922	Gatty, Lady K.	Ossemsley Manor, Christchurch
1922	Gatty, Miss H.	,, ,,
1922	Gatty, Oliver	,, ,,
1922	Gatty, Richard	,, ,,
1921	Geoghegan, Mrs.	25 Wimborne Road
1924	George, Miss M.	3 Balmoral, West Hill Road
1923	Gepp, Rev. E.	163 Southcote Road
1923	Gibbs, F. L. A.	Hawthorns Hotel, West Cliff Road
1921	Gibbs, G. F.	Fairview, 13 Herbert Road
1914	Gill, Edwin R., A.R.C.A.	Rosslyn, Seldown, Poole
1925	Gill, Miss Ida	,, ,,

1922	Gill, Major W. R.	Priory Dene, 33 West Cliff Road
1923	Gill, Mrs.	,, ,, ,,
1924	Goddard, Rev. C. V.	62 Parkwood Road, Boscombe
1925	Godman, G. W.	Beech House, Bransgore, Christchurch
1925	Goodacre, Rev. C. B.	3 Cecil Road, Boscombe
1924	Goode, Mrs.	50 Surrey Road
1921	Gosse, W., M.D., D.P.H.	Hope Lodge, Belle Vue Road, Parkstone
1904	Gray, Arthur	Woodville, 26 Melville Road, Winton
1911	Gray, Mrs.	Darena, 15 Wellington Road
1921	Greg, Mrs.	Fuji Yama, 9 Hengist Road
1914	Greves, E. Hyla, M.D., F.R.C.P.	Rodney House, 19 Poole Road
1914	Greves, S. S. Hyla	,, ,,
1917	Griffiths, Capt. David	Bakrota, 82 Belle Vue Road, Southbourne
1917	Grindley, Miss E. J.	Milnthorpe, Rossmore Avenue, Parkstone
1926	Gurney, Miss A.	Miranda, Carbery Avenue

H

1923	Haigh, A. E.	Exhall, 20 Christchurch Road
1924	Hall, L. Beeching, F.L.S.	Lingdene, King's Avenue, Parkstone
1923	Harbit, R. A.	12 Hathaway Road, Southbourne
1921	Hardwick, S.	51 Poole Hill
1913	Harris, Miss K.	Trescott Grange, Harvey Road, Boscombe
1912	Harrison, Henry	Eden Lodge, 7 Surrey Road South
1926	Harrison, Miss M. P.	Hinton Vicarage, Christchurch
1914	Hartley, Dr. J.	62 Portchester Road
1914	Hartley, Mrs.	,, ,,
1922	Hartley, J. A.	,, ,,
1921	Hassell, Miss A. C.	Avonwood, 20 Owls Road, Boscombe
1914	Hatton, Rev. C. O. S., B.A., F.L.S.	Hinton Vicarage, Christchurch
1921	*Elected an Honorary Member	
1920	Hawes, Miss	The Moorings, 27 Nelson Road
1924	Hawley, Miss H. M.	Galloway Lodge, 27 Florence Road, Boscombe
1917	Haydon, C. J.	Ben Veula, 29 West Cliff Road
1923	Hayman, W. S., M.B.	Thorncliffe, Queen's Park South Drive
1923	Hayman, Mrs.	,, ,, ,, ,,
1923	Hayman, R. L.	,, ,, ,, ,,
1923	Hayman, Miss M. S.	,, ,, ,, ,,
1918	Haythorne, E. C. C.	Forest Lodge, Burton Road, Branksome Park
1925	Heal, H.	16 Holdenhurst Road
1921	Hellyar, Miss E. F.	Cerne Abbas, 1 Belvedere Rood
1921	Hellyar, Miss M. F.	,, ,,
1923	Hellyar, Miss M. R.	,, ,,
1917	Henderson, Miss A. J.	Springbank, 22 Fox Road, Greenock
1921	Heymann, B. M.	Greencroft, Alyth Road, Talbot Woods
1921	Heymann, Mrs.	,, ,, ,,
1923	Hill, C. S.	Northfield, Chigwell Road
1904	Hinton, Miss	Welcombe, Wilfred Road, Boscombe
1924	Hoare, Mrs. A.	Broxa, Surrey Road
1924	Hoare, Miss E.	7 Cambridge Road
1922	Holdom, Mrs. E.	Cranfield, Mansfield Road, Parkstone
1909	Holmes, Mrs.	Brackenwood, 37 Southern Road, West Southbourne
1924	Holmes, Mrs. C. S.	1 Walpole Road
1911	Holmes, Miss S. C. M.	4 Beaufort Road, West Southbourne
1911	Homer, L. V. C.	Carron, 54 Southcote Road
1920	Horne, Miss J.	34 Alumhurst Road
1926	Horsey, Mrs.	Cleveland, Mount Road, Parkstone
1924	Howell, W. Rees	Cintra, 35a Richmond Wood Road

1923	Howell, Mrs. Rees	Cintra, 35a Richmond Wood Road
1923	Hoyer, Miss M. A.	Chippendale, St. Swithun's Road
1911	Hudson, F.	Penarol, Parkstone
1911	Hudson, Mrs.	,, ,,
1925	Humby, H. G.	Brackendene, 23 Wimborne Road
1925	Humby, Mrs.	,, ,,
1926	Hurry, J. B., M.A., M.D., J.P.	Heathlands, East Cliff
1926	Hurry, Mrs. G. L.	,, ,, ,,
1926	Hurry, A. G, M.A.	,, ,, ,,

I

1905	Ibbett, F. W., M.A.	Town Hall
1920	*Elected an Honorary Member	
1925	Insch, J. M.	16 Colville Road, Boscombe
1925	Insch, Mrs.	,, ,,
1923	Isaacs, G. H., B.A.	Hillsley, Caledon Road, Parkstone

J

1921	Jackson, Mrs. Gidlow	64 Portchester Road
1922	Jackson, W., M.A., B.C.L., F.R.G.S.	Newleaf, 58 Wellington Road
1926	Jackson, Mrs. C. M.	Dakota, Beaulieu Road, Alum Chine
1912	James, T. B.	Trevenen, Howard Road
1912	James, Mrs.	,, ,,
1920	James, S.	,, ,,
1923	Jenkins, Miss B. M.	7 Talbot Avenue
1925	Jones, Miss A. R.	Abbotsfield, 1 Leicester Road, Branksome Park
1922	Jones, J. Williamson	Tyndal Lodge, Forest Road, Branksome Park
1908	A Jones, W.	3 Granville Road, Boscombe
1905	Jones, W.	254 Old Christchurch Road

K

1910	Kay, A. J.	Valliscourt, 100 Lowther Road
1923	Kenrick, Miss M.	8 St. Luke's Road
1919	Kilner, John	St. Mary's, Chessel Avenue
1916	Kilner, Miss E. M.	,, ,,
1919	Kilner, Miss R. M.	,, ,,
1919	Kilner, Miss S.	,, ,,
1920	Kitching, Mrs.	Fernworthy, Brunstead Road
1922	Knight, J. W.	The Yews, 2 Leigham Vale Road, W. Southbourne

L

1919	Lacey, Howard, B.A.	50 Wellington Road
1919	La Touche, Miss	Oakfield, Danecourt Road, Parkstone
1926	Laughlin, Col. Charles	Carbery Wood, Tuckton Road, Southbourne
1922	Lawrence, S. C., M.B., Ch.B.	106 Richmond Park Road
1923	Lawrence, Mrs.	,, ,,
1918	Lee, E. Kenworthy	Rosebank, 39 Lansdowne Road
1919	Leech, Miss M. E.	Castle Bar, 32 Crabton Close Road, Boscombe
1919	Leech, Miss M. M.	,, ,, ,, ,,

1924	Legg, Mrs. A. E.	4 Hinton Road
1910	Lendrum, Miss A. M.	San Remo, 13 Carysfort Road
1918	Lindsay, Miss L.	Seathwaite, Sandringham Road, Parkstone
1903	**G** o*Linton, Rev. E. F., M.A., F.L.S.	Offwell, 14 St. Catherine's Road, Southbourne
1925	Little, J. T., M.A.	Yed Hill, Ringwood
1925	Little, Mrs.	,, ,,
1925	Little, Miss S. P., M.A.	,, ,,
1925	Little, Miss C. J.	,, ,,
1922	Littleboy, Miss E. S.	2 Bodorgan Manor, 12 Bodorgan Road
1923	Littlewood, Engineer Capt. A. W., R.N., retd., O.B.E., Chevalier Legion of Honour	28 Princess Road
1922	Logan, T. T.	10 Argyll Road, Boscombe
1916	Logan, Mrs.	,, ,,
1922	Logan, Miss G. M.	,, ,,
1922	Logan, Miss S. M.	,, ,,
1924	Longbottom, F. W., F.R.A.S.	Haslemere, Penrith Road, Boscombe
1922	Longstaff, Mrs. T. G.	Picket Hill, Ringwood
1920	aLove, W. J. E.	St. Clement's School House
1903	oLupton, Miss	Bolingbroke, Knole Road
1909	Lyon, Claude	Shalimar, Wilderton Road, Branksome Park

M

1925	Macdonald, Major General Sir Ronald, K.C.I.E., C.B., D.L., LL.D., Col. Comt., R.E.	70 Wellington Road
1925	Macdonald, Lady	,, ,,
1908	aMackay, Miss	8 King's Park Road
1911	McBean, Miss J.	Inglenook, 29 Parkwood Road
1909	McBean, Miss S.	St. Michael's, Buxton
1923	McDonald, Miss M.	Heatherfield, 15 Gerald Road
1926	Majendie, Miss	24 Dean Park Road
1920	Male, H. C., M.D., M.R.C.S.	35 Irving Road, West Southbourne
1925	Male, Miss G. E.	,, ,, ,,
1922	Mangin, S. H.	Burton, Christchurch
1922	Marsden-Jones, E. M.	The Church House, Potterne, Devizes
1922	Marsden-Jones, Mrs.	,, ,, ,,
1917	Marston, Miss G.	Bourne Hall Hotel
1913	Martin, Miss F. G.	32 Southbourne Road
1925	Mason, Mrs. F.	The Anchorage, Hathaway Road, Southbourne
1921	Massingberd, A. K.	17 West Cliff Road
1921	Massingberd, Miss A. A.	,, ,,
1914	Mate, S. J.	10 Landseer Road
1921	Mate, Mrs.	,, ,,
1918	Matthews, Mrs. J. P.	The Bungalow, Lascelles Road, Boscombe
1925	Matthews, Mrs. M.	Netherbury, Cecil Road, Boscombe
1925	Matthews, Miss M.	,, ,, ,,
1925	Mattocks, T.	Meyrick Cliffs Hotel, Beacon Road
1921	Mattocks, Mrs.	,, ,, ,,
1922	Mattocks, T. E. T.	,, ,, ,,
1925	Mattocks, C. G. B.	,, ,, ,,
1925	Mee, D. E.	99 Richmond Wood Road
1925	Mee, Mrs.	,, ,,
1925	Miles, Miss	21 King's Park Road
1926	Miles, Mrs. F. A.	Milestone, 16 Meyrick Park Crescent
1925	Miller, Miss B.	Sunnycroft, Penrith Road, Boscombe
1925	Miller, Mrs. R.	Meldon, 3 Ormonde Road, Branksome Park

1926	Miller, Miss W. F.	Sunnycroft, Penrith Road
1922	Moore, Major T. C., I.M.S.	Verwood, Dorset
1919	Moorhead, Mrs.	Brightlands, 34 Crabton Close Road
1908†*	Morris, Sir Daniel, K.C.M.G., J.P., M.A., D.SC., D.C.L., LL.D., F.L.S.	14 Crabton Close Road
1911	Morris, Lady	,, ,,
1925	Morris, Miss E. M.	Woodford, Glengariff Road, Parkstone
1908	Moss, Miss	The Grange, 52 Westby Road
1924	Moulson, Miss R.	20 St. Stephen's Road
1925	Murray, C. H.	Hallowdene, Belle Vue Road, Parkstone

N

1919	Nankivell, B. W., M.R.C.S., L.R.C.P.	Woodstock, 2 West Cliff Road
1903	oNeale, J., B.A.	Clonenagh, 7 Montague Road, W. Southbourne
1912	Neave, Miss	Lingdale, 73 Lansdowne Road
1925	Newman, Mrs. C. A.	Harewood, 17 Dean Park Road
1925	Nicholson, A. J.	Maryland, Leicester Road, Branksome Park
1921	Ninnes, G. I.	St Ives, Watcombe Road, West Southbourne

O

1920	Oaten, Mrs.	19 Sunnyhill Road, W. Southbourne
1922	AOdell, Miss M. E., B.SC.	Sandecotes School, Parkstone
1910	Oke, A. W., B.A., LL.M., F.G.S., F.S.A.	32 Denmark Villas, Hove, Brighton
1924	Ormrod, T. B.	20 Knole Road
1920	Osborne, J. H.	Woodside, Kinson
1920	Osborne, Mrs.	,, ,,
1920	Osborne, E. A.	,, ,,
1922	Ousby-Trew, Rev. C., M.A.	Overthorpe, 19 Florence Road, Boscombe
1922	Ousby-Trew, Mrs.	,, ,, ,, ,,
1922	Ousby-Trew, Miss	,, ,, ,, ,,

P

1903	oPainter, Hubert, B.SC., F.C.S.	29 Talbot Road, Winton
1904	Painter, Mrs.	,, ,,
1919	Parker, Miss M.	The Cliff, 13 Southwood Avenue, W. Southbourne
1926	Parroll, F. W.	33 Heathwood Road
1926	Parton, Miss M. A.	197 Holdenhurst Road
1926	Parton, Miss E. C.	,, ,,
1926	Paterson, Miss M.	Corfe Lodge, Parkstone
1926	Paterson, Miss N.	,, ,,
1926	Paterson, Miss L.	,, ,,
1924	Pattinson, Dr. T. W	59 Wellington Road
1924	Pattinson, Mrs.	.. ..
1925	Peach, Miss M. E.	12 Bryanston Road
1924	Pells, J.	9 Stokewood Road
1913	Penrose, F. G., M.D., F.R.C.P., F.Z.S., M.B.O.U.	Woodbury, 9 Grove Road, East Cliff
1916	Penrose, Mrs.	,, ,, ,,
1916	Penrose, Miss F.	,, ,, ,,
1916	Penrose, Miss M.	,, ,, ,,
1912	Pestell, Miss	Engelberg, 92 Surrey Road
1911	Phillips, Mrs.	21 McKinley Road

1921	Phillips, Rev. C. A.	36 Dean Park Road
1921	Phillips, Miss C. E.	,, ,, ,,
1912	Philpott, Mrs.	58 Barkstone Gardens, Earls Court, S.W.5
1925	Pigeon, H. W., M.A., M.B., B.Ch., F.R.C.S.	Ebor Lodge, Church Road, Canford Cliffs
1926	Pigeon, Mrs.	,, ,, ,,
1926	Pigeon, Miss K. M.	,, ,, ,,
1926	Pigeon, Miss N. J.	,, ,, ,,
1920	Pilkington, Mrs. K. C. S.	The Steyne, 9 Manor Road
1920	Pilkington, Miss K. D.	,, ,,
1920	Pilkington, Miss L. D.	,, ,,
1921	Pontifex, R. D.	Dalton House, 68 Christchurch Road
1920	Pontifex, Mrs.	,, ,, ,,
1921	Pontifex, G. K. D.	,, ,, ,,
1922	Potter, H.	19 Studland Road
1926	Potter, Rev. Prof. M.C., M.A., D.SC., F.L.S.	Corley Croft, York Avenue, New Milton
1926	Power, Lady	Newlands Manor, Lymington
1925	Price, L	Oakwood, Harvey Road, Boscombe
1925	Price, Mrs.	,, ,, ,,
1925	Price, Miss H. B. K.	,, ,, ,,
1918	Punch, Cyril	60 Wellington Road

Q

1922	Quick, R., F.S.A. (Scot.), M.J.S.	Russell-Cotes Art Gallery and Museum
1924	Quick, Mrs.	,, ,, ,, ,,

R

1925	Radcliffe, Rev. A. C.	Thelbridge, Keswick Road, Boscombe
1925	Radcliffe, Mrs.	,, ,, ,, ,,
1925	Radcliffe, Miss	,, ,, ,, ,,
1923	Radford, Miss A.	8 St. Luke's Road
1912	Rankin, W. Munn, M.SC. (Leeds), B.SC. (Lond.)	Municipal College, Burnley, Lancs.
1920	*Elected an Honorary Member	
1917	Ranshaw, Miss E. M.	9 Warren Road
1918	Ratcliffe, Mrs.	Brooklands, 32 Branksome Wood Road
1924	Ray, Mrs. I. E.	Mizpah, 35 Nelson Road
1919	Rayner, Miss F.	The Homestead, 29 St. John's Road, Boscombe
1926	Rayner, Miss E.	,, ,, ,,
1905	*Rayner, J. F., F.R.H.S., M.B. MYC. S.	Swaythling, Southampton
1922	Rebbeck, Sub.-Lt. L. E.	Stafford Lodge, 26 Dean Park Road
1922	Rebbeck, Major T. V.	Chota Koti, 7 Stoke Wood Road
1923	Reeves, Miss S., M.B.E.	St. Cross, 13 Bodorgan Road
1924	*Reid, Mrs. E. M., B.SC., F.L.S.	Pinewood, Milford-on-Sea
1919	Richards, Miss E. E., B.SC.	West Cliff Towers, 12 Priory Rood
1922	Riding, Miss M.	Glengarry, 46 Drummond Road
1926	Rix, Miss M. E. de B.	Wayside, Stourcliffe Avenue
1916	Roberts, H. Astley, B.A.	Shalvah, Wilfred Road, Boscombe
1918	Roberts, Mrs.	,, ,, ,,
1924	Roberts, Mrs. J.	Aysgarth, 16 Poole Road
1924	Roberts, Mrs. W. F. M.	19 Florence Road, Boscombe
1924	Robertson, W. G. A., M.D., F.R.C.P., F.R.S. Edin., F.S.A.S.	St. Margaret's, Keswick Road, Boscombe
1921	Robins, Miss E.	11 Richmond Wood Road
1923	Roden, Miss E. M.	14 Campbell Road, Boscombe

1920	Rogers, Miss C. M.	4 Hengist Road
1905	Rogers-Barns, Miss	Vergers Mead, Corfe Castle
1914	**Rooke,** Miss S. G.	Norbury, 53 Paisley Road
1914	***Roper,** Miss Ida M., F.L.S.	4 Woodfield Road, Redland, Bristol
1922	Rosling, A. W.	85 Wimborne Road
1922	Rosling, Mrs.	,, ,,
1922	Rosling, Miss D. M.	,, ,,
1922	Rosling, Miss M. G.	,, ,,
1916	Rothwell, Mrs.	Mellstock, Montague Road, W. Southbourne
1925	Ruddle, Mrs. F. J.	12 Richmond Park Crescent
1913	Russell-Cotes, H. V. M.	8 Meyrick Park Crescent
1925	Ryan, J. E.	Elmstead Cottage, Elmstead Road, Canford Cliffs
1925	Ryan, Mrs.	,, ,, ,, ,,
1916	Ryley, S. Clement, J.P.	The Square, Wimborne

S

1926	Sale, Miss L.	Fixby, Milner Road
1926	Sale, Miss M.	,, ,,
1926	Sale, G.	,, ,,
1926	Sale, V. M.	,, ,,
1926	Saul, Miss I.	Sandtoft, Cross Road, Southbourne
1925	Saunders, E. W.	Deep Dale, 41 Surrey Road
1925	Saunders, Mrs.	,, ,,
1919	Savage, J. W.	41 Wentworth Avenue, W. Southbourne
1912	Scarlett, Miss A.	Fermoy, 4 St. Alban's Avenue
1914	Scholes, Denton	The Holme, 16 Cambridge Road
1915	Scholes, Mrs.	,, ,,
1922	Scholes, R. D.	,, ,,
1922	Scholes, Miss V. O. M. D.	,, ,,
1921	Schott, Miss H. C., M.R.I., F.R.G.S.	The White Cottage, 1 Southern Road, W. Southbourne
1926	Scollick, Mrs.	3 Adeline Road, Boscombe
1919	Scott, G. B., C.I.E.	Glencoy, 80 Surrey Road
1904	Scott, J. H., M.E., M.I.M.C.E.	Kirkby, 22 Linwood Road
1926	Scott, Miss E.	Winter Dene, Durley Road
1926	Scott, Miss A.	,, ,,
1926	Scott, Miss F.	,, ,,
1916	ASeeviour, G. C., A.C.P., F.R.H.S.	St. Peter's School House
1926	Seymour, Mrs. A. J.	Glen Court, Poole Road
1926	Shann, W. A., M.B.	Priory Mansions, Bath Road
1914	Sharp, C.	Langdon, Parkstone
1919	Sharp, Miss E.	,, ,,
1919	Sharp, Miss F.	,, ,,
1923	Shaw, Mrs. P.	Highlands, Howard Road
1923	Sherrin, T. M., M.A.	5 Landseer Road
1903	**G** oSherring, R. Vowell, F.L.S.	Hallatrow, near Bristol
1907	Sherring, Miss O. L.	,, ,,
1926	Shipman, Lt.-Col. H. J.	28 Surrey Road
1916	Simpson, Rev. E. J. Douglas, M.A.	Maesbury, 3 Cavendish Road
1920	Simpson, N. Douglas, B.A., F.R.M.S., F.L.S.	,, ,,
1925	Smith, H. H.	9 Cambridge Road
1926	Smith, Mrs.	,, ,,
1918	Smith, Horace, M.A., M.D.	Sunnyhurst, 7 Dean Park Road
1918	Smith, Miss M. A.	Woodside, St. Alban's Crescent
1918	Smith, T. Templeton, B.SC.	Fern Glen, 5 Ophir Road
1918	Smith, Mrs.	,, ,,
1924	Smith, Miss E. E.	Watford, St. John's Avenue, Boscombe

1923	Smith, Miss L.	C/o Lloyds Bank, Lower Parkstone
1926	Smith, Miss Roberts	San Salvador, Branksome Park
1914	Smyth, W. Johnson, M.D.	Pirbright, West Cliff Gardens
1922	Smyth, Mrs.	,, ,,
1922	Smyth, Miss M.	,, ,,
1912	Smythe, J. H. Ralph, J.P.	Willstead, 22 Cavendish Road
1915	Smythe, Mrs.	,, ,,
1920	Smythe, Miss D.	,, ,,
1916	Smythe, Miss K. M.	,, ,,
1919	Snell, Dr. S. H.	1 Portman Crescent
1919	Snell, Mrs.	,, ,,
1919	Snell, Miss M.	,, ,,
1924	Snell, Miss W.	,, ,,
1921	Sowton, Miss E. M.	57 Southbourne Road, W. Southbourne
1922	Speakman, Mrs. E.	13 Milton Road
1909	Spencer, J. F.	Glenthorne, 73 Richmond Park Road
1917	ASpry, Miss A. G., LL.A.	12 Sunnyhill Road, W. Southbourne
1923	Stables, A. D.	Saxthorpe, St. Osmund's Road, Parkstone
1923	Stables, Mrs.	,, ,, ,, ,,
1926	Standring, J.	Naseby Nye, Byron Road, Boscombe
1926	Standring, Mrs.	,, ,, ,,
1921	Starr, E. J., L.C.P.	Merly Tower, 15 Knole Road
1923	Starr, Col. W. H., C.B., C.M.G., C.B.E.	Nikko, Foxholes Road, Southbourne
1926	Steeple, H. H.	5 Alexandra Road, Southbourne
1926	Steeple, Mrs.	,, ,, ,, ,,
1921	Stevens, C. S.	Goodwin, Howard Road
1916	Stiff, S. J., B.SC.	Norden House, Corfe Castle
1916	Stiff, Mrs.	,, ,,
1916	Stiff, Miss M. J.	,, ,,
1922	Stone, Mrs.	Fordwich, Brunstead Road
1922	Stone, Miss E. E.	,, ,,
1920	Stoney, Miss F. A., O.B.E., M.D., B.S.	Ardvoulan, 29 Poole Road
1924	Story, F. N.	Storyland, Church Road, Southbourne
1924	Story, Mrs.	,, ,, ,, ,,
1925	Strachan, Lt.-Col. E. A.	Moorfield, 1 Bodorgan Road
1925	Strachan, Mrs.	,, ,,
1918	**G** *Sumner, Heywood, F.S.A.	Cuckoo Hill, South Gorley, Fordingbridge
1926	Sutton, W. R.	Bodowen, Strouden Road East
1926	Sutton, Mrs.	,, ,, ,,
1911	Swain, H. E.	Sorrento, Studland Road
1922	*Elected an Honorary Member	
1906	Swallow, E.	York Cottage, Ravine Road, Canford Cliffs
1922	ASymes, H., M.A.	52 Lowther Road

T

1911	Tatchell, Leonard, F.E.S.	Swanage, Dorset
1915	Taylor, F. B., B.A.	Claregarth, Montague Road, W. Southbourne
1916	Taylor, Mrs.	,, ,, ,, ,,
1916	Taylor, Miss M. A.	,, ,, ,, ,,
1916	Taylor, Miss M. W.	,, ,, ,, ,,
1923	Thill, J. A.	8 Colville Road, Boscombe
1923	Thill, Mrs.	,, ,,
1925	AThomasson, Miss M. E.	37 Belvedere Road
1924	Thompson, J. H.	12 Grand Avenue, West Southbourne
1924	Thompson, Mrs.	,, ,, ,, ,,
1922	Thomson, A. W. Ferguson	Ailsa, Erpingham Road
1911	Thomson, Mrs. Roberts	Monkchester, 17 Manor Road
1926	Thomson, Dr. G.	The Pines, Maxwell Road, Canford Cliffs

1926	Thomson, Mrs.	The Pines, Maxwell Road, Canford Cliffs
1926	Thomson, Miss L.	,, ,, ,,
1919	Thoroton, Rev. E. W.	Hill House, Spencer Road, Canford Cliffs
1911	Tickell, Miss S. M.	Pinewood, 56 Stourcliffe Avenue, W. Southbourne
1921	Tolson, Miss A.	Brandwood, Commercial Road, Parkstone
1921	Tolson, Miss L. R.	,, ,, ,, ,,
1921	Tolson, Miss M.	,, ,, ,, ,,
1911	Turner, J. E.	Bramley, 94 Surrey Road
1914	Twemlow, Miss E. E.	Devon Lodge, 83 Alumhurst Road

U

1923	Uhthoff, J. C., M.D., F.R.C.S.	7 Branksome Wood Road
1923	Uhthoff, Mrs.	,, ,,
1923	Uhthoff, Miss C.	,, ,,
1923	Uhthoff, Miss R.	,, ,,

V

1913	Veale, Miss A. G.	2 Richmond Park Crescent
1923	Veale, Miss B.	,, ,,
1923	Veale, Miss C. M.	,, ,,
1923	Veale, Miss L. H.	,, ,,
1908	Vernon, Lieut.-Col., A. H., L.R.C.P., F.R.C.S.	1 Carnarvon Crescent, Boscombe
1918	Vickers, H. U.	32 Lowther Road
1918	AVorse, John	Leighurst, Walkford, Christchurch

W

1903	**G**o†Waddington, H. J.	Moreton, 107 Lowther Road
1918	*Elected an Honorary Member	
1924	AWadlow, H. J.	The Gables, Queen's Grove, Parkstone
1916	Walby, A. E.	Netherton, 2 Dean Park Road
1921	Wales, Miss	The Nook, 4 Ormonde Road, Branksome Park
1921	Wales, Miss N.	,, ,, ,, ,,
1918	Walker, R. S.	Meyrick Cliffs Hotel
1913	Wallace, W. G.	Doveshill Cottage, Ensbury Park
1912	Walter, Mrs. G. P.	Rusholme, 10 St. Anthony's Road
1923	Walter, T. James	101 Lowther Road
1920	Wanstall, W. S.	Del Monte, 6 Roslin Road
1920	Wanstall, Mrs.	,, ,,
1905	Waters, A. W., F.L.S., F.G.S.	Alderley, 2 McKinley Road
1906	Waters, Mrs.	,, ,,
1923	Watts, W. H.	4 Stourwood Avenue, W. Southbourne
1914	Webber, A. E.	28 Tower Road, Boscombe
1925	Webber, Miss L.	53 Princess Road
1920	Wells, Rev. E., M.A.	Glen Roy, 22 Studland Road
1924	West, Miss M. G.	Larnaca, 23 Argyll Road, Boscombe
1913	Wetherell, Miss M.	Triana, 21 Harvey Road, Boscombe
1920	Wetherell, Miss S.	,, ,, ,, ,,
1918	Whitaker, S.	22 Somerset Road, Boscombe
1924	Whitaker, S. E., M.S.A.	22 Selwood Road, Addiscombe, Croydon
1924	Whitaker, Miss E. M.	Weirfields School, Taunton
1920	White, J. R., M.A.	Whitecot, 15 Linwood Road
1920	White, Mrs.	,, ,,
1921	White, Mrs. E. Sinclair	35 East Avenue

1916	Whyte, A. C.	Byberry, 5 Roslin Road
1916	Whyte, Mrs.	,, ,,
1916	Whyte, Miss M. C.	,, ,,
1916	Whyte, Miss M. N.	,, ,,
1919	Williams, John	Brynmill, 68 Southcote Road
1926	Williamson, H. J.	Quiddington, Birchwood Road, Parkstone
1924	AWillis, Miss G. H.	116 Paisley Road, West Southbourne
1917	Wingfield, T. R.	12 Suffolk Road
1920	Woodhouse, Rev. A. P.	Deanhurst, 5 Littledown Road
1905	Woodhouse, W. J., A.C.P., M.I.H.	35 Chatsworth Road, Malmesbury Park
1918	Woodhouse, Mrs.	,, ,, ,, ,,
1923	Woodhouse, W. R.	,, ,, ,, ,,
1923	Woodhouse, Miss M. M.	,, ,, ,, ,,
1925	Wynne, Miss E. A.	37 Portchester Road

Y

1924	Yates, Rev. A. G., M.A., R.N.	14 Wellington Road
1924	Yates, Mrs.	,, ,,
1924	Yates, Miss E. M. M.	,, ,,
1917	AYoung, Miss A.	6 Salisbury Road, Boscombe

RULES OF THE
Bournemouth Natural Science Society.

Title

1.—The title of the Society shall be THE BOURNEMOUTH NATURAL SCIENCE SOCIETY.

Objects

2.—The objects of the Society shall be:

(*a*) The promotion of the study of Science in all its branches, by means of Lectures, Field Meetings, the Reading and Discussion of Papers, the formation of Sections of its members devoted to any particular branch of the Society's work, and in any way that the Council of the Society shall deem advisable.

(*b*) The making of reports on any animal, plant, or object of interest, and the carrying out of the recommendations contained in such reports.

Members

3.—The Society shall consist of Ordinary, Life, Honorary and Associate Members.

Ordinary Members

4.—Ordinary Members shall pay an Annual Subscription of One Pound, due on the first day of October in each Year. The inclusive Annual Subscription for Adult Members of the same family, not exceeding four and residing in the same house, shall be Two Pounds, each Member being elected in the usual manner and each receiving a card of membership. Persons living outside a radius of six miles from the Square at Bournemouth may be elected Country Members, and pay one half the above rates of subscription.

Life Members

5.—The Subscription for Life Members shall be Ten Pounds. Any Ordinary Member who shall have commuted his Subscription, as provided for in this Rule, shall become a Life Member, but shall not by reason thereof have any rights differing from those of an Ordinary Member.

¶ Rules 5a and 5b referred to in the Trust Deed are Rules 19 and 20.

Honorary Members

6.—Any person distinguished in Science or who has rendered any special service to the Society, may be elected an Honorary Member. Honorary Members shall be proposed and elected in the same way as Ordinary Members. The number of Honorary Members shall be limited to twenty.

Associate Members

7.—Persons may be admitted Associate Members by the Council on account of their scientific attainments or because they are likely to prove useful working Members of the Society. This privilege will usually be granted to School Teachers.

The annual subscription for Associate Members shall be seven shillings and sixpence. They shall be entitled to all the privileges of Membership except that they shall have no power of voting on the affairs of the Society or of holding office.

Proposal and Election of Members

8.—The Ordinary, Life, and Associate Members of the Society shall be proposed by a Member to whom they are known personally or to whom they have presented adequate credentials, and seconded by another Member, and the proposal, in the form following these Rules, shall be sent to the Honorary Secretary. The name of any such proposed new Member shall be posted on the Notice Board of the Society for a period of not less than seven days, after which such name shall be voted upon at the next ensuing Council Meeting, and if two-thirds of the Council present and voting shall vote for the proposed New Member, such Candidate shall become a Member upon payment of the Annual Subscription and shall receive a Card of Membership which is not transferable. Any Member joining during August or September shall receive a Card of Membership to September 30th of the following year without further payment.

9.—Any Members whose subscriptions are unpaid at the end of the financial year (September 30th), after notice in writing to that effect has been given to them by the Honorary Treasurer, shall be reported to the Council, which shall have the power of removing their names from the list of members. **Unpaid Subscriptions**

10.—Resignations must be in writing and addressed to the Honorary Secretary. Members are liable for all subscriptions which may have fallen due prior to the date of resignation. **Resignations**

11.—The Executive Officers of the Society shall be the Chairman of Council, the Deputy Chairman of Council, Honorary Treasurer, and Honorary Secretary. **Executive Officers.**

12.—The President shall be elected annually and need not necessarily be selected from Members of the Society. He shall be invited to deliver an Address at as early a date in the Winter Session as can be arranged. **The President**

13.—Any Member of the Society who, in the opinion of the Council, has rendered distinguished service to Science or to the Society, shall be eligible for election as a Vice-President at the Annual Meeting and, if elected, shall retain office as long as he remains a Member of the Society. **Vice-Presidents**

14.—The President or a Vice-President shall take the Chair at all General Meetings other than the Annual and Special Meetings. At these the Chairman of Council or Deputy Chairman shall preside. **Chairman of General Meetings**

15.—The Honorary Secretary shall perform all the usual secretarial work, shall keep minutes of all Council Meetings, and of the Annual and Special Meetings, and make a synopsis of all other General Meetings. He shall cause the agenda of the Annual and Special Meetings to be sent to every Member seven days at least before each such Meeting. He shall make all preparations for General Meetings and General Excursions, in respect of which he shall collect from each Member his share of the expenses, and therefrom defray all costs of the Meetings or Excursions. Any surplus of such collections shall go to the General Fund, and any deficit be defrayed out of that Fund. He shall keep an account of all out-of-pocket expenses. He shall give notice of their election to all new members, and register the Sections, if any, to which they ask to belong. He shall furnish copies of the Annual Reports published during their membership, to all Members who have paid their subscriptions, the number of copies of the "Proceedings" supplied in respect of each family subscription shall not exceed two; to Honorary Members, and to such Scientific Societies as the Council may from time to time appoint to receive them. **Honorary Secretary**

16.—The Honorary Treasurer shall have the custody of the General Funds of the Society. He shall receive and acknowledge all Subscriptions, and shall issue tickets of Membership to all persons who are duly elected and have paid their Subscriptions. He shall bring before the Council any accounts that are due for payment. He shall prepare a financial Statement at the end of each Financial Year to be presented to the Council at the Meeting next preceding the Annual Meeting. After presentation of the Financial Statement to the Council, he shall submit it to the Auditors and lastly to the Annual Meeting of the Society. **Honorary Treasurer**

17.—There shall be a Council of the Society consisting of the Vice-Presidents who have filled the office of President, the Honorary Treasurer, the Honorary Secretary, the Honorary Librarian, the Honorary Editor, the Honorary Curator, the Chairmen of Sections, not more than ten Members elected by the Society and not more than two co-opted Members. **Council**

18 (*a*).—The Council shall have the general management of the Society and the control of its funds. At all Meetings of the Council, five shall form a quorum. The Council shall elect its own Chair-

man and Deputy Chairman for the Year, shall have power to fill up vacancies in its number, and to co-opt not more than two additional members. The Council shall have power to appoint Committees to deal with any business that may be delegated to them.

(*b*) The Chairman, or in his absence the Deputy Chairman, shall have an original and a casting vote at all Meetings of the Council.

(*c*) The Council shall arrange all Lectures, Papers, Demonstrations and Exhibitions of Specimens, etc., for the General Meetings and Excursions of the Society, and shall approve of all arrangements for Sectional Meetings and Excursions before they are included in the monthly programme.

(*d*) If any elected or co-opted member of the Council shall fail to attend four consecutive Meetings of the Council, his seat shall become vacant unless the Council shall decide otherwise.

Trustees

19.—The property of the Society shall be vested in Trustees who shall be elected by the Council. The number of Trustees shall be not more than nine or less than three, and they shall respectively hold office until death or resignation, unless removed from office by a resolution of the Council. The Trustees shall from time to time deal with the property of the Society as directed by resolution of the Council (of which an entry in the minute book shall be conclusive evidence), and they shall be indemnified against all liability whatsoever out of the property for the time being of the Society.

¶ This Rule is referred to in the Trust Deed as Rule 5a.

Borrowing Power

20.—If at any time the Society in general meeting shall pass a resolution authorising the Council to borrow money, the Council shall thereupon be empowered to borrow for the purposes of the Society such amount of money, either at one time or from time to time, and at such rate of interest, and in such form and manner, and upon such security as shall be specified in such resolution, and thereupon the Trustees shall make all such dispositions of the property of the Society or any part thereof, and enter into such agreements or arrangements in relation thereto, as the Council may by resolution direct for giving security for such loan or loans and interest thereon at the agreed rate. All members of the Society, whether voting on such resolution or not, and all persons becoming members of the Society after the passing of such resolution shall be deemed to have assented to the same as if they had voted in favour of such resolution.

¶ This Rule is referred to in the Trust Deed as Rule 5b.

Visitors

21 (*a*).—A Member may introduce friends who accompany him to all parts of the Society's premises except those which are let or in use for a Lecture or Meeting. The Member must enter the names and addresses of such Visitors in the Visitors' Book and sign the entry. Strangers cannot be admitted on presenting a Member's card or letter.

(*b*) A Member may introduce two Non-Members, who accompany him, to any Lecture or Excursion of the Society, but no Non-Member may be thus introduced to more than two Lectures in the Winter Session and two Excursions in the Summer Session, even though introduced by different Members. In the case of Lectures, the introducing Member must enter the names and addresses of the Visitors in the Visitors' Book and sign the entry. In the case of Excursions, the introducing Member must send the names and addresses to the Organiser of the Excursion.

(*c*) A Member introducing a Visitor is responsible for ascertaining that the Visitor has not been introduced twice previously in that Session and also that the privilege is not used for commercial purposes.

(*d*) A Visitor to Bournemouth may, with the approval of the Council, be granted a ticket enabling him to attend the Meetings and Excursions of the Society for a period not exceeding six months at a charge of Fifteen Shillings.

(*e*) The Council shall have power to extend the hospitality of the Society to distinguished Visitors.

(*f*) The Council shall have power temporarily to alter or suspend this Rule or any part of it.

Charges for Meetings

22.—The Council shall have power to make a charge to Members for admission to any Meeting the holding of which involves special expenses, and may arrange for the admission of Non-Members.

Expulsion

23.—The power of expulsion of a Member from the Society for objectionable conduct shall be vested in the Council and exercised at a Special Meeting called for that purpose. Notice of the proposed expulsion must be given on the circular convening the Meeting. The expulsion must be carried by a majority of two-thirds of those present.

The Member affected shall have power to appeal to a General Meeting of the Society to act by the like majority.

The Annual and Special Meetings

24 (*a*).—The Annual Meeting shall be held in the month of October.

(*b*) At this Meeting the President, the Chairmen of Sections, the Honorary Treasurer, the Honorary Secretary, the Honorary Librarian, the Honorary Editor, the Honorary Curator, not more than ten Members of the Council and two Auditors for the ensuing year shall be elected, either Auditor having the power to audit the accounts in the absence of the other.

(*c*) At this Meeting the Council's Report for the past year, and the Honorary Treasurer's statement of accounts duly signed by the Auditors, shall be submitted.

(*d*) Notice convening an Annual or Special Meeting, together with the agenda and details of any proposed alterations in the Rules, shall be given to Members at least seven clear days before such Meeting is held. Notice of General Meetings shall be given at least seven clear days beforehand.

(*e*) On a written Requisition, signed by at least ten Members of the Society, the Council shall call a Special Meeting to consider any question as to the affairs of the Society, such Meeting to be called within three weeks of the Council Meeting next following the receipt by the Honorary Secretary of the Requisition, and at least seven clear days' Notice shall be given to the Members. At such Meeting no other business than that mentioned on the Requisition, and on the notice convening such Meeting, shall be considered.

(*f*) At the Annual Meeting and at all Special Meetings of the Society, not less than twenty-five Members shall form a quorum.

Section

25 (*a*).—The Council shall have power to form a Section for the study of any special subject deemed within the scope of the Society's work, and shall appoint the Chairman for the first year.

(*b*) The Chairman of each Section shall appoint a Secretary for the Section, who, in addition to the ordinary secretarial duties, shall keep a list of the Members of the Section.

(*c*) A Section shall consist of those Members who have signified to the Honorary Secretary or the Secretary of the Section their wish to belong to that Section.

(*d*) The Members of each existing Section shall, at a Meeting held before the last week in July in each year, nominate the Chairman of the Section for the ensuing year to come into office after the Annual Meeting. The Secretary of the Section shall send such Nomination to the Honorary Secretary in time to present it at the Council Meeting held on the last Monday in July.

(*e*) If the Council approve of the Nomination, it shall recommend the person nominated for Election at the Annual Meeting, otherwise it shall refer the matter back to the Section. In the event of a Section failing to nominate a Chairman, the Council shall have the right to do so. The final Election shall take place at the Annual Meeting.

(*f*) At the request of the Sectional Chairman the Secretary of a Section may attend Meetings of the Council, but without the power of voting.

(*g*) Each Sectional Chairman shall be responsible for the preparation and arrangement of each Sectional Meeting and Excursion, and shall furnish details of the same to the Honorary Secretary for submission to the Council. At the end of each Session he shall render to the Honorary Treasurer an account of his receipts and payments for the Section.

(*h*) A Minute Book for each Section shall be kept in which shall be entered details of the Section's work and an account of all Sectional Meetings, with the number of Members attending and notes on any matters of interest observed or discussed. Such book shall be submitted to the Council whenever required. The Chairman of each Section shall send to the Honorary Secretary a report of the Section's work for the year in time for it to be epitomised in the Council's Report to the Annual Meeting.

Alterations in Rules

26.—Alterations in the Rules must be sanctioned by a majority of not less than two-thirds of the Members present and voting at the Annual Meeting, or at a Special Meeting called for that purpose, and no alterations shall otherwise be made.

To the Honorary Secretary,

Bournemouth Natural Science Society,

39, CHRISTCHURCH ROAD, BOURNEMOUTH.

Dear Sir,

I beg to propose that

M...

(Please give Christian name in full, and state title—Mr., Mrs., Miss, etc., and any degrees or qualifications.)

Address...

....

**who is personally known to me*
**who has produced satisfactory credentials to me* *be elected an* **Ordinary* **Associate*

Member of the Society.

Date................ *Member's Signature* ....

I beg to second the above proposal

Date................ *Member's Signature*..............................

*Delete word not applicable. See extract from Rules on reverse of this form.

Annual Meeting, 1926.

THE Twenty-third Annual Meeting was held at 39 Christchurch Road on Saturday, October 16th, at 3 p.m., with Mr. J. H. Ralph Smythe, J.P., in the Chair. The Chairman expressed the profound regret of the Council and of all members at the loss sustained by the Society through the death of their respected and esteemed Hon. Secretary, and reported that a vote of condolence had already been passed by the Council and sent to Mr. de Paiva's relatives. The Minutes of the last Annual Meeting and the Council's Report for the last year were then read, and the Hon. Treasurer presented his Annual Statement of Accounts. These were adopted on the proposal of Dr. Hurry, seconded by Dr. Fountain. Dr. Penrose proposed and Dr. Crallan seconded a very cordial vote of thanks to Mr. Painter on the completion of his second year of office as President. His successor, Mr. Heywood Sumner, F.S.A., was proposed by the Chairman, seconded by the Rev. C. O. S. Hatton, and unanimously elected. The Chairman then proposed, and Mr. Arthur Gray seconded the re-election of all the Officers of the Society; the election of Council was proposed by the Rev. C. Ousby-Trew and seconded by Miss Fryer, of Chairmen of Sections by the Chairman and Mr. Backhouse, of Hon. Auditors, Mr. Bicker and Mr. Blackett, by Mr. John Williams and Major Moore. All these proposals were unanimously carried.

Mr. Heywood Sumner thanked the Meeting for the honour conferred upon him; and the proceedings closed with a vote of thanks to the Chairman, proposed by Mr. Hayes Barratt and seconded by Mr. Dodshon.

Council's Report, 1926.

IN presenting their Twenty-third Annual Report, the Council are glad to be able to record another year of prosperous activity.

On September 30th of last year there were 659 members, while on the same date this year there were 595, of whom 17 are Associate Members. There still remain 9 original Members.

During the year General, and other Meetings have been held as follows :—

Annual Meeting
Presidential Address
4 General Lectures
64 Sectional and other Meetings
5 General Excursions
32 Sectional Excursions

making a total of 107 Meetings and Excursions.

General Lectures and Meetings.

(*Illustrated by Lantern Slides.)

1925.

Oct. 10.—Annual General Meeting.

Oct. 17.—Presidential Address by Mr. Hubert Painter, B.Sc., F.C.S. Subject:—" Speculations and Reflections on the Origin and Present Position of Natural Science."

*Oct. 24.—" Incidents in the Cultivation and Preparation of Tea in Southern India," by Mr. Rudolph D. Anstead, M.A., F.M.U., Director of Agriculture, Madras Presidency.

*Nov. 7.—" Roads, Past, Present and To Come," by Dr. T. F. G. Dexter, B.A., B.Sc., D.P.H.

1926.

*Feb. 20.—" Characteristic Features of Saxon Church Architecture," by Mr. F. W. Ibbett, M.A.

*April 23.—" The Organization and Operation of a Mosquito-Control," by Mr. J. F. Marshall, M.A., F.L.S., F.E.S., Director of the British Mosquito-Control at Hayling Island.

Sectional Lectures and Meetings.

Archæological and Historical Section.

1925.

*Nov. 5.—" The Cornish Riviera, Past and Present," by Mr. R. Quick, F.S.A. (Scot.).

*Nov. 28.—" The Saxon Shore," by Col. J. R. Dodd, M.D., F.R.C.S.

*Dec. 10.—" Some Early Iron-age Village-sites in South Wilts," by Dr. R. C. C. Clay, F.S.A.

1926.

*Jan. 9.—" Athens," by Mr. H. Symes, M.A.

Feb. 6.—" The Forgotten Peoples of the Old New-World," by the Rev. H. Wilbur Ennis, B.A.

March 22.—" The Cradle of Human Civilisation." A Discussion, introduced by Mr. Claude Lyon and Mr. T. J. P. Jeffery.

April 28.—" Roman Housing, A.D. 253 to A.D. 378," by Mr. Heywood Sumner, F.S.A.

Astronomical Section.

1925.

Nov. 16.—" Recent Progress and Discoveries in Astronomy," by Mr. B. M. Peek, M.A., F.R.A.S.

1926.

*March 15.—" The Sun," by Mr. Claude Lyon.

*April 8.—" Eclipses of the Sun," by Dr. G. E. J. Crallan, M.A., M.B., M.R.C.S.

Botanical Section.

1925.

*Nov. 3.—" Scottish Botany," by Dr. G. Claridge Druce, D.Sc., LL.D.

*Nov. 10.—" Extinct Plants and the Theory of Descent," by Dr. Dukinfield H. Scott, M.A., F.R.S., F.L.S.

Dec. 3.—" Seeds and Seedlings," by Mr. J. F. Rayner, F.R.H.S., M.B. Myc. Soc.

1926.

Jan. 2.—" Vegetation of the Sea-Coast," by Mr. W. Munn Rankin, M.Sc., B.Sc.

Jan. 16.—" At Home." (In conjunction with the Microscopical and Entomological Sections.)

*Feb. 23.—" The Movements of Plants," by Miss Ida M. Roper, F.L.S.

In addition to the above, six Informal Meetings of the Section have been held during the winter session, at five of which the following short addresses were given, and rare specimens of plants were exhibited and discussed :—

1925.
Nov. 17.—" Plants seen in Britain during 1925," by Mr. L. Beeching Hall, F.L.S.
Dec. 1.—" Carbon Assimilation in Plants," by Miss G. H. Willis.
1926.
Jan. 5.—" Erica cinerea var. bracteomania," by Surgeon-Capt. G. G. Borrett, R.N.
Feb. 2.—" Some British Grasses," by Miss Firbank, LL.A., A.C.P., and Mr. J. Vorse.
March 2.—" Alien Plants found near Bournemouth," by Miss S. G. Rooke.
April 6.—To discuss Summer Excursions.

Entomological Section.

1925.
Nov. 12.—Exhibition of Objects of Interest, with a discussion on " Function and Organs of Smell." The discussion was opened by the Chairman, Mr. J. Neale, B.A.
Dec. 8.—Discussion on " The Power of the Insect," opened by Dr. G. E. J. Crallan, M.A., M.B., M.R.C.S. Followed by an Exhibition of Objects of Interest.
1926.
Jan. 16.—" At Home " (in conjunction with the Botanical and Microscopical Sections).
Jan. 26.—" Sound Production and its Mechanism in Insects," followed by a discussion, introduced by Surgeon-Capt. Borrett, R.N., and an Exhibition of Objects of Interest.
March 23.—" The Insects of the Dunes," by Mr. J. Neale, B.A.

Geographical Section.

1925.
*Nov. 21.—" A Talk on Switzerland," by Mr. C. Lyon.
*Dec. 12.—" A Glimpse at Trinidad," by Miss E. E. Twemlow.
*Dec. 15.—" South Tunisia," by Mr. J. Omer Cooper, F.E.S.
1926.
*Jan. 6.—" Norway," by Mr. John Williams.
*Jan. 7.—*Children's Lecture.* "The Wonders of Colour and Photography," by Mr. C. Lyon.
*Jan. 30.—" France," by Mr. R. K. Cardew, B.A.
*Feb. 25.—" Domestic Architecture," by Mrs. Waters.
*Feb. 27.—" At Les Diablerets (Bernese Oberland) with a Camera," by Mr. E. Dodshon, LL.B.
*March 16.—" New Methods of Teaching Geography," a Discussion, opened by Mr. Claude Lyon, and Mr. W. J. Woodhouse, A.C.P., M.I.H.
*April 9.—" A Walk round Cairo," by Mr. Claude Lyon.

Geological Section.

1925.
Oct. 30.—" Theories relating to the Earth's Surface," Part I.
Nov. 19.—" Theories relating to the Earth's Surface," Part II. By Mr. H. Bury, M.A., F.L.S., F.G.S.
*Dec. 11.—" Sand and Sandstones," by Dr. G. E. J. Crallan, M.A., M.B., M.R.C.S.
1926.
*Jan. 14.—" The Elements of Geotectonic Geology," by Mr. E. St. John Burton, F.G.S., F.Z.S.
Feb. 5.—" The Geological Strata of the Isle of Wight," by Mr. R. K. Cardew, B.A.
*March 12.—" Extinct Monsters," by Dr. Rae Sheriffs, M.A., F.L.S.
April 10.—" The Denudation of the Chalk Downs," by the Rev. C. V. Goddard.

Microscopical Section.

1925.
Oct. 21.—Exhibition of Objects of Interest.
Nov. 18.—Do.
Dec. 16.—Do.
1926.
Jan. 16.—"At Home." (In conjunction with the Botanical and Entomological Sections.)
Jan. 20.—Exhibition of Objects of Interest.
Feb. 17.—Do.
March 17.—Do.
April 21.—Do.
May 19.—Do.
June 16.—Do.

Photographic and Record Section.

1926.
*March 13.—"Life in Battleship and Heavy Cruiser, 1910-1915," by Surgeon-Capt. G. G. Borrett, R.N.
*March 27.—Exhibition of Members' Work for the Year, by Mr. W. Dieselhorst, A.M.I.C.E.

Physical Section.

1925.
Dec. 5.—"Daltonian Atoms, and the Ultimate Constitution of Matter," by Mr. Hubert Painter, B.Sc., F.C.S.
1926.
Jan. 23.—"Some Simple Physical apparatus for Mechanics," by Mr. Geoffrey H. Hamilton, B.A., B.Sc.
Feb. 3.—"How Plants Feed," by Mr. R. O. Cole, B.Sc.
*Feb. 13.—"The Spectrum," by Mr. T. Templeton Smith, B.Sc.
*March 6.—"History and Uses of Low Temperature," by Mr. A. Spencer White, B.Sc.
March 20.—"Some Metals used in Industry," by Miss Marcia Penrose, B.Sc.

Zoological Section.

1925.
Nov. 20.—"A popular Talk on some of our Commoner Birds," by Dr. S. H. Snell. Illustrated by large diagrams and cases of stuffed birds.
1926.
Feb. 24.—"At Home," when the Chairman, Dr. F. G. Penrose, F.R.C.P., F.Z.S., M.B.O.U., gave a short address on some recent work on the "Cuckoo Problem."
*March 24—"The Fauna of Jersey," by Dr. G. E. J. Crallan, M.A., M.B., M.R.C.S.

General Excursions and their Leaders.

1926.
June 8.—The New Era Laundry, Mr. Lyon.
June 26.—Brympton d'Evercy, Mr. Lyon.
July 21.—Moyle's Court and Somerley Park, Mr. J. R. White, M.A.
Aug. 21.—Milton Abbas, Mr. J. R. White, M.A.
Sept. 9.—Winklebury and Tisbury, Mr. Lyon and Mr. E. Dodshon, LL.B.

Sectional Excursions and their Leaders.

1926.
March 9.—Littlesea, Mr. Howard Lacey, B.A. (Botanical).
April 7.—Wareham and Cold Harbour, Mr. Howard Lacey, B.A. (Botanical).

1926.
April 22.—West Parley and Dudsbury, Mr. R. K. Cardew, B.A. (Botanical).
May 4.—Hengistbury Head, Mr. H. A. Garnett (Botanical).
May 6.—South Gorley and Breamore, Col. J. R. Dodd and Mr. R. K. Cardew, B.A. (Archæological).
May 20.—Poole Park, Mr. H. J. Wadlow (Botanical).
May 29.—Ashton Court, Mr. H. Backhouse (Botanical).
June 1.—Gain's Cross and Bonslea, Miss Curme (Botanical).
June 5.—Lulworth Castle, Col. E. B. Anderson (Archæological).
June 8.—Swanage, Mr. Howard Lacey, B.A. (Botanical).
June 9.—Hayling Island, Dr. Penrose, F.Z.S. (Zoological).
June 12.—Stair Hole and Lulworth Cove, Mr. St. John Burton, F.G.S. (Geological).
June 15.—Holmesley, Mr. J. Vorse (Botanical).
June 22.—Pepperbox Hill, Mr. Howard Lacey, B.A. (Botanical).
July 1.—Marlborough Deep, Rev. C. O. S. Hatton, B.A. (Botanical).
July 8.—Beaulieu Road, Mr W. Munn Rankin, M.Sc. (Botanical and Entomological).
July 10.—Pitt Rivers Museum, Mr. Lyon (Geographical).
July 13.—Chapman's Pool, Mr. W. Munn Rankin, M.Sc. (Geological and Botanical).
July 20.—Handley Down, Mr. W. Munn Rankin, M.Sc. (Botanical).
July 23.—King's Park Nurseries, Dr. J. B. Hurry, M.A. (Botanical).
July 24.—Osmington Mills and Ringstead Bay, Mr. W. Munn Rankin, M.Sc. (Geological).
July 28.—Glastonbury Abbey, Mr. J. H. Ralph Smythe (Archæological).
Aug. 5.—Wool, Mr. R. K. Cardew, B.A. (Botanical).
Aug. 18.—Newlands Manor, Mr. Lyon (Geographical).
Aug. 19.—Corfe, Miss Rogers-Barns (Botanical).
Aug. 23.—Buckler's Hard and Beaulieu, Mr. R. K. Cardew, B.A., and Col. J. R. Dodd (Archæological).
Aug. 24.—Wareham to Ridge, Mr. Howard Lacey, B.A. (Botanical).
Sept. 3.—Eggardun, Mr. R. K. Cardew, B.A. (Archæological).
Sept. 7.—Moreton, Mr. R. K. Cardew, B.A. (Botanical).
Sept. 15.—Wardour Castle, Mr. Lyon and Mr. Dieselhorst (Geographical and Photographic).
Sept. 22.—Bank and Lyndhurst (Fungus Foray), Mr. J. F. Rayner, F.R.H.S. (Botanical).
Sept. 23.—Cliff End, Highcliffe, Mr. E. St. John Burton, F.G.S. (Geological).

The General Lectures were all unusually interesting, the two following being of special interest :—" Incidents in the Cultivation and Preparation of Tea in Southern India " by Mr. Rudolph D. Anstead, M.A., F.M.U., Director of Agriculture, Madras University, and " The Organization and Operation of a Mosquito Control " by Mr. J. F. Marshall, M.A., F.L.S., F.E.S., Director of the British Mosquito Control at Hayling Island.

Among the Sectional Lectures those of special interest were :—" The Forgotten Peoples of the Old New World," by the Rev. H. Wilbur Ennis, B.A.; " Roman Housing, A.D. 253 to A.D. 378," by Mr. Heywood Sumner, F.S.A.; " Scottish Botany," by Dr. G. Claridge Druce, D.Sc., LL.D.; " Vegetation of the Sea-Coast," by Mr. W. Munn Rankin, M.Sc., B.Sc.; two lectures on " Theories relating to the Earth's Surface," by Mr. Henry Bury, M.A., F.L.S., F.G.S.; and " Daltonian Atoms, and the Ultimate Constitution of Matter," by Mr. H. Painter, B.Sc., F.C.S.

The General Excursions, five in number, were all of great interest. Details of these, and of some of the most attractive of the Sectional Excursions, are given in the Proceedings, pp. 37 41.

At the last Annual Meeting the retiring President, Mr. Hubert Painter, B.Sc., F.C.S., was cordially thanked for his services during the year, and unanimously re-elected as President of the Society for the ensuing year 1925-26. He gave his Presidential Address on October 17th, in the large hall of the Municipal College. The title was "Speculations and Reflections on the Origin and Present Position of Natural Science."

Mr. Heywood Sumner has kindly consented to allow himself to be nominated as President for 1926-27.

The Wild Flower Exhibition at the Lansdowne Public Library, which is carried on from April to November, has maintained its popularity. Great interest has been shown by the General Public, and by Students resident in the town and elsewhere. Many requests are made for identification of specimens, both local and from distant counties. It has the approval and support of the Education Committee, who contribute to the out-of-pocket expenses incurred. The work has been carried out by Miss Rooke, Mrs. Garnett, Miss S. Wetherell, Miss Willis, and Mr. H. J. Wadlow, to whom the Council tender their thanks.

The principal donations to the Society include a large number of books, given by various members; new shelves for the Egg-Cabinet, given by Dr. Penrose and Mr. Lacey; a large collection of Economic Plants and Seeds, given by Dr. Hurry (these have been planted in a special portion of the Society's garden, set apart for that purpose); and Cabinets for the Museum. Mrs. Markwick gave a number of astronomical slides and books belonging to the late Colonel Markwick.

The Executors of the late Mr. J. A. Alexander gave a collection of various specimens and books belonging to their father; and Miss Gotch gave a collection of shells.

A very successful Garden Party was held in the grounds of the Society's House on Wednesday, July 7th. About a hundred members attended. They were received by Mr. J. H. Ralph Smythe, J.P., the Chairman of the Council.

Tea was provided in a large marquee on the lawn. The weather, though threatening, was propitious. In the various rooms was arranged a large and very interesting Exhibition of rare objects.

The following were elected, by co-option, as members of the Council, on May 3rd, to fill the two existing vacancies:—Dr. J. B. Hurry, M.A., J.P., and Mr. F. W. Longbottom, F.R.A.S.

The Council thanks the following ladies for their help at the teas during the winter session:—Mrs. Howell, Miss McBean, Miss Ousby-Trew, Miss Rooke, Mrs. Thill, Miss A. Veale, Miss B. Veale and Miss M. Wetherell.

The Conference of the South Eastern Union of Scientific Societies, at Colchester, was attended by Colonel Dodd, M.D., F.R.C.S., as the Delegate of the Society. He afterwards presented to the Council a full and very interesting account of the proceedings, for which he was warmly thanked by the Council. His Report appears elsewhere in this volume.

At the meeting of the British Association for the Advancement of Science, held at Oxford, in August, Mr. Claude Lyon was the Society's Delegate. He presented his Report to the Council at their meeting on September 6th; it will be found printed in this volume.

The Astronomical and Mathematical Section sustained a great loss in the retirement of their talented Chairman, Mr. B. M. Peek, owing to his leaving the district. Previously to his leaving, Mr. Peek advised that the Mathematical Section should no longer be united with the Astronomical Section.

In the great difficulty of finding a successor to Mr. Peek, Dr. Crallan very kindly consented to act as Deputy Chairman for the remainder of the session. No Chairman was found for the Mathematical Section or for the Astronomical Section, which are consequently now temporarily in abeyance.

The Archæological and Historical Section has also suffered the loss of its Chairman, Col. Dodd feeling obliged, through ill-health, to resign the position. Mr. R. K. Cardew, B.A., very kindly took his place as Acting Chairman for the remainder of the session, and is now nominated for election as Chairman.

The Entomological Section also loses its Chairman at the end of this session, Mr. Neale feeling that he must resign on account of ill-health; Mr. Howard Lacey, B.A., has been nominated as his successor.

The Society assisted the Bournemouth Corporation in publishing in pamphlet form Mr. Dallimore's recent lecture on "Trees and Shrubs suitable to Bournemouth," by lending them the blocks and letterpress of the Pleasure Gardens, Winter Gardens, and Horseshoe Common, prepared by them for previous volumes of their Proceedings.

The Council deeply regrets to report the loss, by death, of Mr. R. Y. Banks, an original member, also Chairman of the Photographic and Record Section for 14 years; of Mr. H. J. Ellis, a member for 13 years, also a member of Council and Hon. Librarian for six years; and of Mr. T. J. P. Jeffery, a member for 15 years and a member of Council for three years.

The Society has suffered the loss, by death, of Mr. J. A. Alexander, F.R.G.S., F.R.S. (Edin.); Surgeon-Lt. Col. D. Curme, a member for 13 years; the Rev. Professor G. Henslow, M.A., F.L.S., F.G.S., a member for 15 years, and who was also elected an Honorary Member in 1918; Mr. C. F. Holmes, 16 years a member; Mr. F. W. Peel; Mr. W. H. Savery, J.P., C.C.; Mrs.

Homer; Mr. W. H. Scott, M.A., Chairman of the Mathematical Section for one year; Mr. R. Harrison Solly, a member for 13 years; Miss Turpin; and Mr. S. Barker.

The Council reports, with the deepest regret and extreme sorrow, the very recent death of their highly esteemed Hon. Secretary, Mr. R. A. de Paiva. He died on the 2nd of October, after a very short illness, at the age of 85. He had been looking forward eagerly to attending this Annual Meeting, saying that it would probably be his last. He had been Hon. Secretary and Assistant Secretary of the Society for 14 years, and, in that period, the Society continually advanced in success and prosperity. He devoted his whole interest and energies to his work as secretary, and it was the bitterest disappointment to him when, through failing eyesight, he could no longer carry on his work. He had won the esteem and affection of the whole Society, and will long be missed by them.

In conclusion the Council desires to express its thanks to all who have presented objects of interest and of use, or given Lectures, or conducted Excursions; and especially to owners and occupiers who have kindly permitted the Society to visit the several places of interest controlled by them.

Summary of Accounts for the Year ending 30th September, 1926.

Current A/c.

RECEIPTS.

	£	s.	d.
Members' Subscriptions	510	10	0
Voluntary Donations	8	14	0
Sale of Natural History of Bournemouth	1	5	6
Sale of Proceedings	0	12	6
Rent from Tenants	130	0	0
Letting of Hall	1	10	0
Donation for Library	1	10	0
Refund of Cost of Wild Flower Exhibition from Education Committee ...	1	14	6
Donations for Egg Cabinet	8	5	9
Donation towards cost of Vol. XVII of Proceedings	2	0	6
Sale of Chests	3	0	0
	669	2	9
Balance from last year	20	12	3
	£689	15	0

PAYMENTS.

		£	s.	d.
Rates and Taxes		80	16	4
Interest on Debentures ...	182 8 0*			
Less Tax	36 9 8			
		145	18	4
Salaries, Wages, Insurance Stamps ...		116	6	9
Printing and Stationery		48	16	6
Vol. XVII. of Proceedings ...		55	14	6
Postage		28	7	3
Water, Lighting, Heating		20	4	5
Subscriptions to other Societies		2	3	6
Furnishing and Maintenance		56	11	7
Insurance		9	7	5
Museum and Collections		33	15	5
Library, Papers, etc.		12	9	4
Cost of Meetings, Excursions and Garden Party less Takings		0	4	1
Share of Telephone Rent		3	3	0
Cost of Wild Flower Exhibition		1	14	6
Sundries		0	9	3
		616	2	2
Balance at Bank		73	12	10
		£689	15	0

*Note.—This amount includes, and the Bank balance is in addition to, the sum of £6 less £1 4s. 0d. tax, which has not yet been paid, pending production of Probate.

Summary of Accounts for the Year ending 30th September, 1926.

RECEIPTS.	£	s.	d.	PAYMENTS.	£	s.	d.
Deposit Debenture A/c.							
Balance from last year	62	6	0	Balance on Deposit	64	15	0
Interest to 31st Dec., 1925	2	9	0				
	£64	15	0		£64	15	0

G. BRUMMELL,
Hon Treasurer,
1st October, 1926.

We have examined the above account with the Books of the Society and the Vouchers for payment and certify the same to be correct.

(Signed BICKER & PETTITT,
Incorporated Accountants.

C. H. BLACKETT,
Hon. Auditor.

DEBENTURES.—The money required for the purchase of the Society's house at 39 Christchurch Road was raised by the issue of 6 per cent. debentures, secured on the Society's property. The authorised amount of the issue was £3,400, but only £3250 was actually issued, and this has been reduced to £3,040 by exercising the option of redemption in the case of some holders who have died. The property of the Society was vested in nine Trustees, of whom the following are the survivors, Sir Daniel Morris, Messrs. J. H. Ralph Smythe, J. M. French, H. Backhouse, G. Brummell, Dr. W. G. Boul, and the Rev. C. O. S. Hatton, and the surviving trustees for the debenture holders are Messrs. T. O. Bartlett, H. V. M. Russell-Cotes, Mrs. L. Painter, Miss A. Rogers-Barns, and Miss H. Pestell. It is greatly in the interest of the Society that the amount of the debentures should be decreased, and the suggestion is offered to such holders as may feel so disposed to leave their holding by way of legacy to the Society.

BRITISH
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15 FEB 27
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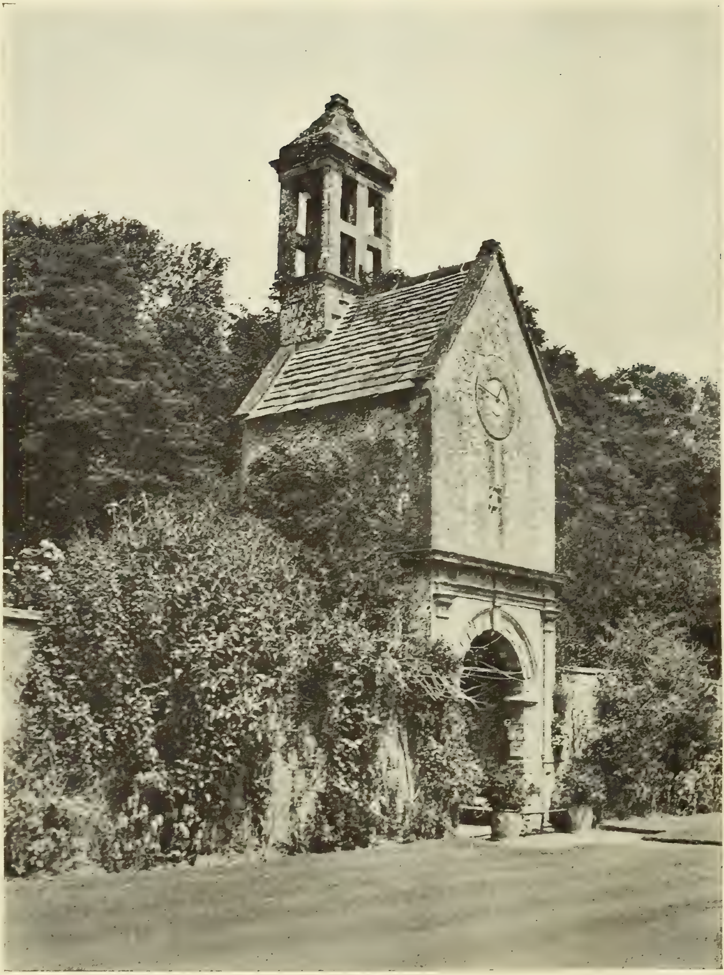

BRYMPTON D'EVERCY.

BRITISH
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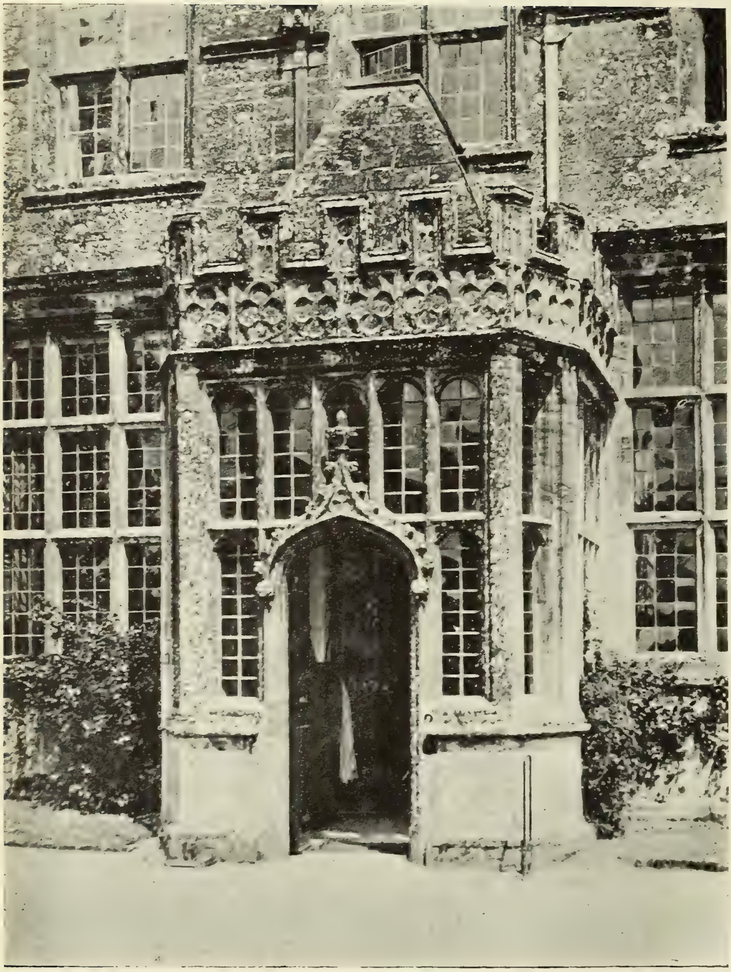


BRYMPTON D'EVERCY.

Report of Summer Excursions, 1926.

Brympton d'Evercy. On June 26th the Society once more received a very cordial welcome from Captain and Mrs. Clive, but as some description has been given of the house and church in Vol. XIII., no further details are necessary beyond drawing attention to the annexed representations of the porch which was added to the original Tudor West front in 1722, and of the quaint clock-turret.

Moyle's Court and Somerley. On July 21st an extremely interesting round was carried out under the guidance of Mr. J. R. White, M.A. Arriving before noon at Moyle's Court the company assembled under the mighty oak which stands, outside the gates, on the bank of Dockens Water, and a paper was read by the leader, giving a sketch of the history of the adjacent manors of Rockford and Ellingham, and, in particular, of Moyle's Court and of its hapless châtelaine, Dame Alice Lisle, so ruthlessly done to death in 1685 as the first victim in the Bloody Assize.

Sir Edward Goschen had kindly ordered the house to be open for inspection by the party, who were free to wander where they wished, and to admire the oak panelling, the state bedchamber, and the hall, adorned, oddly enough, by a full length portrait of the notorious Judge Jeffreys. The house is not grand or spacious, but an excellent example of a comfortable mediæval mansion, which has seen many vicissitudes of fortune, degraded to farmhouse use and reduced almost to ruin in the early part of the 19th century, and subsequently embellished and restored by Mr. Frederick Fane to its present attractive state.

There followed a short drive to Ellingham Church. Here the curious passer-by is usually content to note the tomb of Lady Lisle, close to the South porch, and the interior is apt to be neglected. It contains, however, very much of interest, a fine screen, a remarkable rood loft and stair turret, a Jacobean pulpit, a 15th century font, Lord Normanton's stately canopied pew, and a curious Flemish picture, looted from Cadiz in the Spanish War, set in a Grinling Gibbons framework, the whole, formerly serving as a reredos, now transferred to the west end of the church. All these were fully described by the Vicar, who also kindly showed the church plate, including a chalice dated 1652, and very ancient parish registers.

The church stands at the gates of Somerley Park, through which the party drove to the house, where, by the kindness of Lord Normanton, the great picture gallery was thrown open for their inspection. Ample time was given to examine the splendid collection of old masters, which is particularly rich in works by Sir Joshua Reynolds, but contains also notable examples of Murillo, Sir Thomas Lawrence, Titian, Greuze and others.

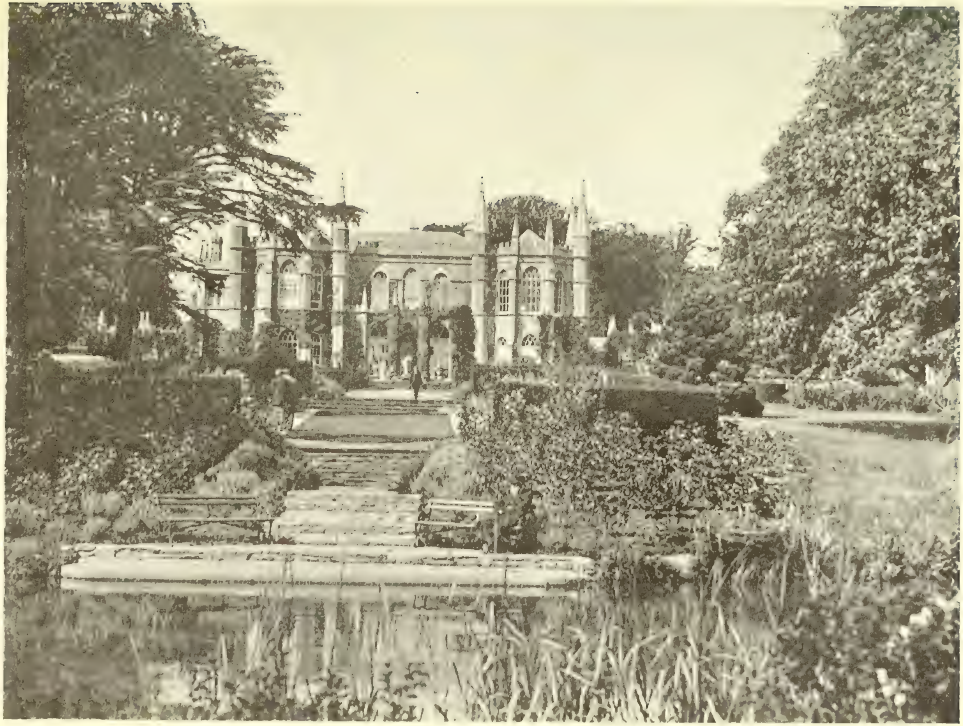
King's Park Nurseries. On July 23rd members enjoyed a novel experience in a visit to the King's Park Nurseries, where are housed many tropical and other plants, assembled from various distant parts of the world. The collection, embracing such as supply foods, fibres, dyes or medicines, is the gift of a member of the Society, Dr. J. B. Hurry, M.A.; and the party had the advantage of being conducted by him and of hearing many interesting details of the growth and the uses of the plants. The list is too long to quote, but details have been published in the local Press, with special allusion to the banana, papyrus and sugar cane. It is believed that the Parks Committee will make arrangements for the public to inspect the collection, and in the meantime a goodly number have been planted out temporarily in the Central Gardens just below the Square. All are clearly labelled with the English and Latin name, the Order, and the country of origin. It is hoped that this collection may form the nucleus of a local Museum of Economic Botany.

Newlands Manor. On August 18th, under the leadership of Mr. Claude Lyon, a large party of members enjoyed the hospitality of Sir John Power at his delightful country seat near Milford-on-Sea.

Sir John acted as guide in the house, which is packed with objects of interest, pictures, cabinets, mirrors, screens and the like; in the gardens Lady Power came to his assistance, and a thorough inspection was made of the remarkably varied elements which make up a wonderful whole, to which the lake lends an added touch of beauty. It was altogether a memorable afternoon, enhanced by brilliant sunshine after a hopelessly wet morning.

Milton Abbas. On August 21st a delightful excursion to Milton Abbas was made by a large party of members under the leadership of Mr. J. R. White, M.A. On the journey a short halt was made at Winterbourne Whitchurch, to inspect a curious fifteenth century font, and a beautiful old pulpit rescued in the eighteenth century from the wreckage of the ancient village of Milton; on the return journey an attempt to visit the fine old church at Bere Regis was frustrated by a clerical bye-law which forbids entry on Saturday afternoon. A trifling disappointment, for Milton Abbas contains in itself enough of beauty and interest for a long summer's day.

On arrival, a short paper, by way of historical sketch, was read by the leader, and sufficed to put the company in possession



NEWLANDS MANOR.

BRITISH MUSEUM
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of the romantic story of the demolition of the abbey and of the ancient village by Lord Milton, afterwards first Earl of Dorchester, and of his erection of the new village, which stands to-day, practically unchanged and surely unique, remote from the great abbey church round which the life of the district revolved in ancient times.

Of the stately Benedictine foundation some idea may be gathered from the magnificence of the church as it now appears after discreet and reverent restoration by the late Sir Gilbert Scott, and from the great Refectory which was, happily, spared by Lord Milton and incorporated in the mansion which he erected for his own pleasure on part of the site of the abbey. By special favour of the present owner, Captain Angus Hambro, the party was admitted to this hall, a perfect example of the period, of which perhaps the most notable features are the compass-roof of Irish oak, and the ornately-carved screen of the same material.

Pilgrims, of old, would pass from the precincts by a stairway of many steps, cut in the turf of the neighbouring hill-side, to the little Norman chapel of Saint Katharine, from which you look down a beautiful vista upon the square tower with its encircling pile of buildings in an ideal setting of wooded slopes and trim lawns. Now it must be approached by a devious path among glorious beeches. It is said that these hill-top shrines, of which another notable example may be found near Abbotsbury, are due to the legend of the burial of Saint Katharine of Alexandria by angels on Mount Sinai. It is good to find that this relic, which suffered gross indignity during the centuries following the dissolution of the monasteries, has in recent days been set in order by the Hambro family and re-dedicated to sacred use.

Eggardun. An excursion of extraordinary variety and interest, planned by Mr. R. K. Cardew, B.A., was carried out by a large party of members on September 3rd. The day's programme embraced a complete survey of the string of picturesque villages along the course of the western Winterbourne, an inspection of the fine Cromlech, known as Hellstone, on Black Down, consisting of a monstrous horizontal slab resting on nine upright blocks, and the remote British camp of Eggardun, perhaps the most notable feature in a district teeming with archæological interest. In ancient times, when the valleys were mainly forest or morass, the watersheds formed the natural means of transit, and along these may still be traced broad green trackways. Such are the Ox-Drove on the northern boundary of Dorset, and the Dean Hill way, running eastward from the Pepper-Box in south Wilts, both not too remote to be visited from Bournemouth. One of these Ridgeways forms the northern boundary of the Dorset Hills, a tangled mass on almost all of which may be found tumuli, lynchetts, pit-dwellings and hut-circles. Eggardun Hill, with its great camp, is the key of the system. One trail connects it with the Ridgeway at Hoar Stone, a second may be followed through Cattistock and Cerne Abbas, a third runs down to the great earthwork of Mai-Dun, near Dorchester, commonly known as Maiden Castle. Eggardun itself is most easily, if not most directly, accessible by a Roman road, grass-grown, but fit even for motor traffic, which leaves the Bridport road some four miles from Dorchester and climbs on an easy gradient to a height of 800 feet at the camp. The area is about 20 acres, one-sixth of Mai-Dun. It occupies a commanding position, with a magnificent view, on the hill overlooking Powerstock, the steep slopes on three sides being strengthened by formidable ramparts. On the fourth side it is divided from the Down by a narrow neck of land defended by a double rampart. It would be difficult to find a wilder or stranger spot in Dorset, yet it must have been at one time a populous centre, for inside the camp are many pit-dwellings, while near by can still be traced the outlines of an ancient British village.

Winklebury and Tisbury. In the excursion of September 9th the responsibility of leadership was shared by Mr. Claude Lyon and Mr. E. Dodshon, LL.B., with a powerful auxiliary in the person of Dr. R. C. C. Clay, F.S.A., the well-known Wiltshire archæologist. Tisbury is not unknown to members, but it is always interesting to revisit the Parish Church, the largest in the county, with its mighty yew tree, 35 feet round, the fine Arundell monuments and the exquisite brass to Lawrence Hyde, the father of the historian Lord Clarendon. A halt was also made at Donhead St. Mary, where the Vicar met us in the church, and kindly pointed out its chief features of interest, the Norman font, the beautiful western arch and the transition-Norman capitals of the nave pillars, of artistic and varied designs. The journey was broken on reaching the summit of Charlton Down, to inspect the ancient ridge-way, known as the Ox Drove, and the adjacent prehistoric earthwork consisting of double banks from scarp to scarp with a narrow ditch between, which has given ground for much expert speculation as to its object. The crowning point of the day was Winklebury Hill, not hitherto visited by the Society, where, after an arduous climb, the party was met by Dr. Clay, who has himself conducted important excavations on the neighbouring downs. The name, identified with the Anglo Saxon Wincelbeorh—the fort at the corner—defines the structure, which consists of an entrenchment of 12 acres, surrounded by a ditch and a rampart 40 feet high, with unusual openings of considerable width at the two southern corners. It is attributed to the Bronze Age and is supposed to have been a harbourage for cattle. Near by, General Pitt-Rivers found an Anglo-Saxon cemetery from which he exhumed some thirty skeletons.

BRITISH
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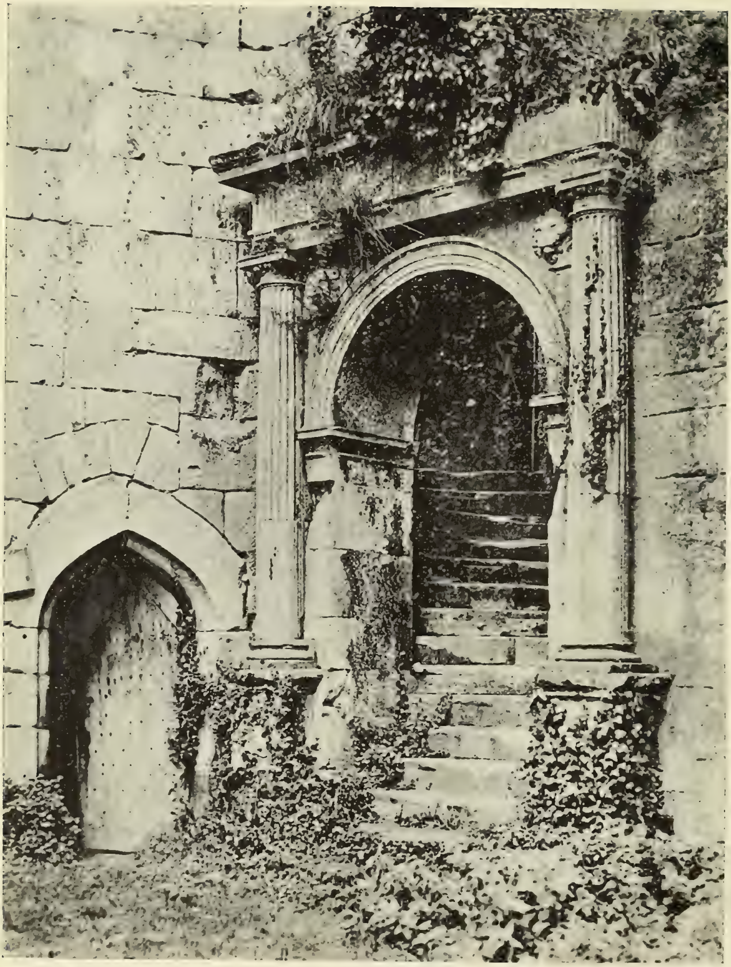

GRAND STAIR,
WARDOUR CASTLE.

Wardour Castle. The success of this excursion was modified by a bad breakdown of the weather in the afternoon, and by the somewhat grudging (though expensive) permit accorded by the agent for the property. Access to the grounds being only allowed at the North Lodge, a very extensive circuit had to be made; and the direct route through the Park from the Ruins to the Chapel being barred, another huge détour round the estate was necessary. All this frittered away valuable time, and as a result the inspection of the Chapel was of a somewhat perfunctory character. It was also a great disappointment to many that the magnificent collection of pictures in the Castle was not open to the party. The principal interest of the day, therefore, centred in the Ruins of the ancient Castle, heroically defended in the Great Rebellion by Lady Blanche Arundell and sadly shattered by her son, when garrisoned by the Parliamentarian Edmund Ludlow. The romantic story and other interesting historical details formed the subject of an excellent paper read by the leader, Mr. Claude Lyon. Meanwhile the photographers of the party were busy, and, as the annexed print of the Grand Stair shows, to some purpose.

Congress of the South-Eastern Union of Scientific Societies at Colchester,

From June 9th to 12th, 1926.

Report of Delegate from the B.N.S.S.

In point of archæological interest Colchester may fairly challenge comparison with any locality in Britain. It was a place of importance before the coming of the Romans, the residence of the supreme chief of the island, the traditional King Cymbeline, and so the first objective of Claudius in the invasion A.D. 43. Much of the Roman walls remain, with the magnificent Balkern Gate, and Roman bricks have been freely used in the construction of St. Botolph's Priory, a splendid Norman ruin, dating A.D. 1116, in St. Martin's Church, and elsewhere. Here Boadicea secured a brief triumph for which she paid with her life. The first Charter was given to the city by Richard Cœur-de-Lion and included the rights of the famous oyster fishery, still the mainstay of local industry. Here, too, was the home of the Elizabethan, Dr. Gilbert, the author of "De Magnete" and the founder of the Science of Electricity. Holy Trinity Church possesses a notable Saxon arch of Roman bricks and a Maser bowl of Richard II. period, still used as an alms-dish.

The Presidential Address was delivered by Mr. Reginald Smith, B.A., F.S.A., on "Essex in pre-Saxon Times," beginning with geological details and tracing the history down through the Celtic and Roman periods.

On June 10th we visited the Castle, built very shortly after the Norman Conquest, almost entirely of Roman material, and housing the Museum, rich in Celtic and Roman remains. Underneath are the foundations of the temple dedicated to the Emperor Claudius and destroyed by Boadicea. An address was here given by Dr. Wheeler, F.S.A., outlining the history from the time of Cymbeline till the town ceased to be the Roman capital of the Province owing to the geographical advantages of London.

The morning of June 11th was divided between two zoological lectures :—

(1) Mr. Stuart Baker, in discussing " Some curious effects of Evolution," described, with the aid of beautiful slides, the extraordinary gradations in form and colour met with in the species Phasianus Mycthemerus according to local environment in an area of the Himalayas extending from the west of Kashmir to the borders of China. In some localities the male bird is almost black, with a square tail; this is known to Indian sportsmen as the Kaleege pheasant; in other parts it is almost white, with a long tail, the silver pheasant. In the discussion which followed, Mr. Baker pointed out the difference between the variations noted in Mendelian experiments, which were brought about under artificial conditions, as compared with those due to differences of environment ranging from the dark valleys of the foothills to the open snowy ranges.

(2) Alderman Benham, in a most interesting and humorous account of the fishery, identified the Colchester product with the oyster of Juvenal—" Rutupino edita fundo ostrea," and described the great loss and damage to the fishery due to the ever-increasing number of the slipper-limpet, expressing a hope that from the present assembly of scientific talent useful suggestions to meet the menace might result.

In the afternoon I joined a geological excursion to Walton-on-the-Naze, to view the outcrop of the Red Crag, and also the clay deposit, now being encroached upon by the sea, which yields neolithic remains, flints and interments. The route lay through Constable's country, well wooded and undulating. An excursion to the artist's home at Dedham was made on June 12th.

In the evening a public lecture by Mr. J. H. Owen on " The Birds of Essex " was illustrated by a wonderful series of slides from photographs taken from " hides " near the nests, showing the habits of the birds under natural conditions. Those described included the cuckoo, nightingale, crested grebe, lapwing, shrike and sparrowhawk. A wonderful picture was shown of the last-named bird protecting her young from the sun's rays with her outstretched wings.

I regret that I was unable to attend any of the botanical lectures or excursions, as they synchronised with other events in which I was more interested.

In conclusion, acknowledgment should be made of the excellent local arrangements, and tribute paid to the authorities for their united and individual contributions to the success of the meeting, and more especially to the Mayor, whose reception at the Town Hall was an outstanding feature of the civic hospitality.

J. R. Dodd.

Report of the Delegate of the Bournemouth Natural Science Society to the Meeting of the British Association at Oxford.

From the 4th to the 11th August, 1926.

Special interest attached to the meeting through the presence of H.R.H. the Prince of Wales, whose Presidential Address was closely followed by a packed audience in the Sheldonian Theatre. Conferences of Delegates were held on August 5th and 10th. I attended both, and also one of the meetings of the General Committee.

The President of the Conference, Sir John Russell, F.R.S., followed up a subject initiated last year by an address on "Regional Surveys and Scientific Societies." He observed that though we have now arrived at the period when the professional scientist is becoming more and more important, yet the amateur who is prepared to take trouble still has his place in the advancement of knowledge. In the observational sciences, such as botany, archæology, etc., the amateur is able not only to interest himself, but also to help others. A Regional Survey must be based on specialised work of the Geological Survey and on that of the various Natural History Surveys made by professional specialists who have the necessary time and resources. It is not necessary to attempt the task of combining the results of all the specialised Surveys. This would be a task too vast to accomplish. But much good work has already been done, and Sir John referred especially to the Survey carried out by the S.E. Union of Scientific Societies, who, following up the pioneer work of the Croydon Natural History Society, have actually published no less than seven Surveys of different parts of the country.

In starting a Regional Survey the first thing to do is to construct a model of the district showing the hills and valleys, accompanied by reasons for their formation, the climatic conditions, the average rainfall, variations in temperature, and so on. The details should be correlated with the data given by Ordnance Survey maps. From this preliminary work we go on to show how the geological and climatic conditions have influenced the inhabitants. The Region may be classified under four headings as follows :—Dwellings with their gardens, arable land, permanent grass land, and uncultivated land including forests, bogs, moors, etc. The Geographical Association have devised a system of symbols to distinguish each of these four divisions, and these can be made more expressive by prefacing them with some letter or number. The Journal of the Association contains valuable information under these heads, and endeavours to aid persons engaged in the work.

The President insisted on the value of Regional Surveys. Their importance to the general community has been abundantly demonstrated by Professor Abercrombie and Mr. Pepper (e.g., in the matter of town planning), while for the teacher they provide material of great educational value, and to the student they supply a most useful record of the countryside as it is now.

In the discussion which followed several delegates detailed the work done in the regions they represent. An important suggestion came from a delegate, who, speaking as a farmer, advocated a Survey of noxious weeds. These appear to be on the increase and might become a positive danger to the industry. He attributed the increase, in large measure, to the rise in the wages of farm labourers, involving a decrease in the number employed on the land. Another delegate gave details from South Africa. He had been greatly impressed by the interest our people take in the country and by the love they have for it, and suggested that a Survey should be made of our breeds of sheep and the quality of the wool.

At last year's Meeting of the British Association a Committee, with Sir Arthur Keith, F.R.S. as chairman, was appointed to co-operate with the Torquay Natural History Society in investigating Kent's Cavern. The Committee now reported that there was no immediate prospect of excavation in the Cavern, which is private property.

Early last winter, however, leave was obtained from the owner for a preliminary examination of the part known as the vestibule. This is a chamber 40 feet by 32. In the first instance three pits were sunk here, and subsequently joined, so as to form a trench running the whole length of the chamber. The finds so far reported comprise worked flints, and bones or teeth of the horse, ox, bear, rhino, hyaena and cave-lion, similar to remains previously unearthed. Most of the work was done voluntarily by members of the Torquay Natural History Society.

A long discussion, showing divided opinion, followed, on the question of an appeal to admit, free of duty, films from abroad, intended to be used for scientific or educational purposes.

The next Meetings of the Association are to be held in Leeds, Glasgow, and possibly S. Africa.

Claude Lyon.

Report of the Botanical Section.

The Botanical Section has again had an exceptionally good season and enjoyed the following Meetings and Excursions :—

5 Lectures at 3 p.m.
5 Informal Meetings at 5 p.m.
18 Excursions
5 Unofficial Excursions
1 " At Home "

34 Meetings.

The Lectures were of a high character and very well attended.

The Informal Meetings continued to be much appreciated, and provoked most interesting discussions.

Favoured almost invariably by beautiful weather, the Excursions were well patronised, and proved very profitable and enjoyable.

Owing to the General Strike a few of the official Excursions were cancelled. In lieu of these, Mr. Cardew kindly conducted several unofficial ones to interesting places in the immediate neighbourhood.

The Exhibition of Wild Flowers at the Public Library was carried on as usual by members of the Section, and frequently received commendation from the general public.

In conjunction with the Entomological and Microscopical Sections, an " At Home," attended by 46 Members and friends, was held at No. 39 on January 16th, 1926, at which many objects pertaining to each Section were exhibited.

The following is a list of the most interesting plants met with in 1926 :—

98 *Cardamine pratensis*, L. (double variety).
166 *Reseda alba*, L.
209 *Silene nutans*, L.
294 *Malva moschata*, L. (white variety).
719 *Apium inundatum*, R.f.
783 *Lonicera Xylosteum*, L.
841 *Inula Helenium*. L. (new locality).
861 *Matricaria inodora*, L. (double variety).
867 *Artemisia Absinthium*, L.
908 *Silybum Marianum*, *Gaertn.* (new station).

919 *Cichorium Intybus*, L. (white variety).
1101 *Legousia hybrida*, Del.
1126 *Monotropa Hypopitys*, L.
1158 *Microcala filiformis*, H. & L.
1200 *Echium vulgare*, L. (pink variety).
1212 *Datura Stramonium*, L.
1221 *Linaria Elatine*, Mill.
1222 *Linaria spuria*, Mill.
1228 *Linaria minor*, Desf.
1236 *Mimulus Langsdorffi*, Donn.
1276 *Bartsia viscosa*, L. (new station).
1306 *Utricularia minor*, L.
1342 *Prunella vulgaris*, L. (white variety).
1345 *Marrubium vulgare*, L.
1401 *Chenopodium Bonus-Henricus*, L.
1444 *Rumex pulcher*, L.
1460 *Thesium humifusum*, D.C.
1476 *Euphorbia Lathyrus*, L.
1531 *Malaxis paludosa*, Sw.
1534 *Neottia Nidus-avis*, Rich.
1550 *Orchis hircina*, Crantz.
1552 *Orchis ustulata*, L.
1632 *Paris quadrifolia*, L.
1905 *Catabrosa aquatica*, Beauv.
— *Cratægus crus-galli*.

Library Report.

Many useful books have been added to the shelves of the Library since the last Report.

The Hon. Librarian, with the kind assistance of Miss Alice Veale, Hon. Assistant Librarian, has been engaged in the preparation of a new Catalogue which is nearly completed. It is hoped to make a rearrangement of the books which should facilitate reference to them.

The exchange with other Societies of volumes of Proceedings, etc., has been continued and a number of interesting volumes resulting therefrom may be consulted.

Among the donors of books, to whom the Society owes its thanks, are the following :—

The executors of the late Mr. J. A. Alexander, F.R.G.S., F.R.S. (Edin.).
Mr. Henry Backhouse, F.R.H.S.
Mr. Henry Bury, M.A., F.L.S., F.G.S.

Dr. G. E. Crallan, M.A., M.B., M.R.C.S.
Mrs. Ellis.
Mr. Arthur Gray.
Dr. W. Gosse, D.P.H.
Mr. Henry Harrison.
Dr. J. B. Hurry, M.A., J.P.
Mr. Lyon.
Dr. Penrose, F.R.C.P., F.Z.S., M.B.O.U.
Mrs. Waters.

The following books were purchased :—

"Evolution," by Dr. J. Graham Kerr.
"Hand-list of Trees and Shrubs" (Roy. Botanical Gardens).
"The Romance of Plant Hunting," by F. Kingdon Ward.
"The World of Sound," by Sir William Bragg.

Museum Report.

The work of arranging the Society's collections is progressing steadily, but we are still very much handicapped by the lack of suitable showcases. Through the generosity of one or two members a second cabinet has been provided for the large Batley collection of Birds' Eggs, and the arrangement of the specimens is practically completed.

Among the donations during the past year are a very fine Hippopotamus skull from Dr. J. B. Hurry, and a cabinet of the lepidoptera, the donor of which desires to remain anonymous. Dr. Penrose has presented some skulls of the larger carnivora, and the Executors of the late Mr. J. A. Alexander a number of specimens from his collections which have not yet been arranged and catalogued. The collection of coins is now being arranged and the selection of a representative collection of British shells will shortly be begun.

The Curator will be very glad to hear from any member who is able and willing to assist in naming and setting in order any of the collections. Assistance is specially needed in regard to the geological collection and leaf impressions from the Bournemouth beds.

Members can visit the Museum at any time on application to the caretaker. Students wishing to have the cases opened for closer examination should apply to the Curator.

Presidential Address.

SATURDAY, OCTOBER 23rd, 1926.

"New Forest and Old Woods."

By Heywood Sumner, F.S.A.

Good, and ill chance are always inherent in the affairs of life, and succession to any office is subject to such chance.

I consider that my election, for which I thank you, to the honourable position of President of the Bournemouth Natural Science Society is, in one respect, rather ill chance for me, because I am following such a pre-eminently equipped man of science as Mr. Hubert Painter. He is a Professional, I am an Amateur (in the true sense of the word, a lover), an amateur archæologist, and can only give you an inch, where his Presidential addresses have given you an ell. Again, he is one of the "onelie begetters"—one of the original resident members who, 23 years ago, founded the Bournemouth Natural Science Society, whilst I am but a truant, honorary, country member—and so I must begin by invoking your forbearance.

I am not going to take you far afield. My inch is within the Bournemouth 30 mile radius. I wish to direct your attention to a local question of much importance, that concerns us all as members of the public who have the privilege of roaming at will over the Forest—inheritors of its woodland beauties; and one that specially concerns several sections of our many-sided Natural Science Society, namely, how best can be fulfilled the Resolution contained in the New Forest Report of 1875, p. iii: "that the "ancient ornamental woods and trees shall be carefully preserved, "and the character of the scenery shall be maintained." (Subsequently embodied in the New Forest Act, 1877).

This question has come to the fore during the past year, and the following quasi-official communication that appeared in "The Times" of January 13, 1926, states the intended plan of the Forestry Commission to re-stock decaying areas:

"WOODLANDS IN THE NEW FOREST.

"PLAN TO RE-STOCK DECAYING AREAS.

"Considerable interest has been aroused by the statement "of Lord Lovat, the chairman of the Forestry Commission, in "regard to the future of the New Forest. Lord Lovat, as "reported yesterday, said that many of the old woods were fast "falling into decay, and that the commissioners, in order to "maintain the beauty of these woods, were prepared to promote "an Act of Parliament.

" In official quarters Lord Lovat's speech is regarded as
" being in the nature of a ' gesture ' to the commoners of the
" New Forest. The woods that have fallen into decay are those
" ancient woods which, like Mark Ash and Bramshaw† are
" precluded, under the New Forest Act of 1877 from being
" enclosed.

" By that Act the amount of land which the Crown is entitled
" to enclose at any one time is limited to 16,000 acres. It is
" understood that the Forestry Commissioners, however, if the
" commoners consent, are prepared to give up an equivalent
" portion of the 16,000 acres now enclosed, if they can be permitted
" to enclose these old woodlands. For this a new
" Act of Parliament would, it is thought, be necessary.

" It was stated yesterday that a good deal of anxiety exists
" as to the future of these ancient woods owing to their open
" nature, and to the fact that there are no fences around them.
" They are largely used as grazing grounds for forest ponies and
" cattle, and although in many cases the soil conditions are
" favourable, and one would expect to find a large crop of natural
" seedlings, a close examination of the areas reveals no sign
" whatever of re-stocking by natural means. The parent trees,
" beech and oak, are magnificent specimens, but they are now
" decrepit. Many of them are ' stag-headed,' most of them are
" hollow in the butt, and a large number are lying on the ground
" as a result of the recent storm. It is feared that at no distant
" date the trees in much of the unenclosed woodland will all die,
" and the woods will revert to ' scrub,' or open forest, the
" ' scrub ' consisting of holly and birch.

" The Forestry Commissioners are extremely anxious to
" avoid such an occurrence. The view of the experts is that,
" provided it were possible—and this could only be done with the
" consent of the commoners—to re-stock the area naturally, that
" would be the ideal way of preserving the character of the woodlands.
" To do this it would, however, be necessary to keep off
" grazing animals, at all events for a certain period. This could
" be done in such a way that the existence of the fence around
" the area to be re-stocked would be scarcely noticeable, and, it
" is maintained, the amount of grazing ground that the commoners
" would lose would be of little moment, having regard to
" the very large area of common available for grazing. But in
" order to keep off forest ponies, deer, cattle and rabbits, so that
" the seeds may take root and grow, the enclosure of these woodlands
" would be essential.

" It is recognised that the Forestry Commissioners, as such,
" have no real obligation in regard to these ancient woodland
" areas, but they are prepared to take an interest in them, and to
" go a considerable way towards restoring their beauties. Mark
" Ash is probably in the most advanced state of decay. In the

" case of Bramshaw, a particularly fine old woodland, with a
" little care and the removal of occasional trees in order to allow
" the young growth light and air, it would, it is contended, be
" quite an easy matter gradually to revive the whole area without
" the hand of man being noticed. Both Mark Ash and Bramshaw
" are extremely popular sections of the New Forest."

I have quoted the above communication at length, because it fully sets forth a matter now under consideration between the Crown and the commoners, etc.

So far, Lord Lovat's plan to re-stock the decaying areas of the old woods by enclosure has not received local support. New Forest commoners have a deep-rooted suspicion of any " gesture " on the part of the crown, i.e., the Forestry Commission. Whatever the Crown may propose is met with suspicious scrutiny by commoners, residents, and forest lovers—why?

Well, I think that the tap-root of such suspicion may be found in Mr. Cumberbatch's letter of December 31, 1853 (he was then Deputy Surveyor, cf. 1868, New Forest Report, p. 84), to the Commissioners of Woods wherein he thus advocated Crown policy in the New Forest : " It appears to be important that the
" Crown should, as soon as possible, exercise its rights of
" inclosing the 16,000 acres (authorised by the 1851 Deer
" Removal Act), because, exclusive of other advantages, by so
" doing all the best pastures would be taken from the commoners,
" and the value of their rights of pasture would thus be materially
" diminished, which would be of importance to the Crown in the
" event of any such rights being commuted, as suggested in the
" 31st Report to Parliament." A policy that surely explains and justifies suspicion of Crown by commoner in the past; suspicion that was still further increased by Mr. Kenneth Howard's evidence (he was then Chief Commissioner of Woods) in the 1875 New Forest Report, p. 55, 368. Q. Lord Henry Scott : " You
" are not disposed to repudiate this (the above) sentence of Mr.
" Cumberbatch's letter of December 31, 1853?" A. : " No, I
" do not repudiate it; I only say it had better not have been printed." (cf. also 818-823, ibid).

When present-day Forest officials in high position read these New Forest Reports, and are confronted by the entries which I have quoted, they must feel that Messrs. Cumberbatch and Howard have (in this respect) passed on to them a " damnosa haereditas "—for it has been passed on, and inherited; and it is " damnosa "—not only to officials but also to commoners, residents, and forest lovers.

This suspicion is twice cursed. It embitters both suspecter and suspect. It warps judgment. It perverts good, into ill will. Suspicion of new departure of any sort on the part of the Crown still smoulders, and is ready to flare with the least kindling.

Inherited suspicion abides among all forest inhabitants, mainly founded (I believe) on the entries that I have quoted—not from suspecters having read them, for I do not suppose that one in a hundred has seen these bygone New Forest Reports, but from hearsay. " Big shame " gossip has been recited from father—to son—to grandson, or has been passed on and around by the one in a hundred who has read the Reports referred to.

Again, the claim of the Crown to have a " rolling power " gradually to inclose and plant the whole of the Forest aroused the commoners to suspect, and to complain of confiscation. See 1868 Report (129). Chairman, Q. : " You complain that the mode " of making inclosures amounts as you say, to a confiscation of your property, will you state in what way?" Mr. W. C. D. Esdaile. A. : " Because in the first place we find that the Crown " claims the power of planting *ad infinitum*; they say : when we " take 6,000 (acres) we may take 6,000 more, when we take 6,000 " more we may take 6,000 more and so on *ad infinitum*; and " then the Deer Removal Act is a simple amplification of that " power by adding 10,000 acres; therefore the position of the " Crown, as it is claimed (I have put in these words advisedly), " is that they have 16,000 acres to take in and to fling out as " often as they please; I do not think that we should have the " slightest difficulty in proving to your Lordships that that must " end in total confiscation . . . . "

The " rolling power " Crown claim was thus noted in the 1868 Report by the Select Committee, p.V. : " It cannot be denied " that under the operation of these Acts (9 and 10. William III, " and Deer Removal Act 1851) the Crown will gradually extend " its plantations over the greater part of the Forest." And it was then shelved in a final paragraph (p. VI.) advocating disafforestation—a policy on which the Committee was divided—six voting for it, five against (p. XII.).

Subsequently, however, the 1875 Report of the Select Committee contained the following Resolution : " That the Crown " should retain the power of keeping 16,000 acres of growing " timber and trees planted under the Acts of William III., and " 1851, at all times under inclosure; and that the Crown be " entitled to inclose and throw out at will any portion of the area " over which the powers of planting are to be exercised, with a " view to its unrestricted use in such manner as may be deemed " expedient for the most profitable growth of timber and trees; " but that the rolling power over the open portion of the Forest " not now planted or inclosed under the Acts of William III., or " 1851 should now cease." Finally, the abolition of the " rolling power " was confirmed by The New Forest Act, 1877.

But meanwhile the Crown claim (see 1875 Report, 513) to cover the whole Forest with woods had bred profound suspicion in two generations of commoners.

Again, to say the least, the commoners were not reassured in the Crown's consideration of their rights by Mr. Kenneth Howard's omission of the paragraph : " It is obviously repugnant " to every idea of justice and good policy that the rights of one " party in any joint property should be sacrificed to those of " another "—in quoting a passage from the 1790 Report on Woolmer and Alice Holt. (See 1875 Report, 325-327); nor by Mr. Gardiner's (solicitor to the Royal Forests) emphatic denial that the Crown and the commoners had a joint interest. (Ibid, 1035). Nor by the Crown claim to enforce the fence month and winter heyning (which commoners allege applied only to deer) after the deer had been removed by the Act of 1851.

Indeed the Hydra of New Forest suspicion has had many heads with as many lives, and they die hard. In spite of the New Forest Act, 1877, that limited the area of Crown Inclosures to the then existing Inclosures—Sec. 5—thereby conceding the suspect " rolling power "; and that granted rights of common exercisable during fence month and winter heyning—Sec. 9.*

Understanding the past is a step towards future progress, and the foregoing recital of past grievances (which no longer exist) has not been made to renew their sting, but only to explain New Forest inherited suspicion of Crown by commoner. " Tout " comprendre, c'est tout pardonner."

I believe that the above estimate of inherited local suspicion of Crown by commoner, accounts for the strident ejaculation by one of Lord Lovat's audience after his speech at Lyndhurst, January 1926, in which he outlined his policy for re-stocking decaying areas in the old woods—" I should like to know what " you have got up your sleeve, my Lord?"

This question crudely expressed the prevailing atmosphere of suspicion in the crowded hall. It was met with good humour. Lord Lovat looked up his sleeve, and then showing it to his audience, replied : " Nothing," which terminated the interruption in laughter.

Nothing assuredly up his own sleeve, but alas! for his inheritance of a phantom coat-sleeve dating back to Mr. Cumberbatch's letter of December 31, 1853, up which ill-intention surely lurked. It is so hard to enable present Right to rectify past Wrong. To convert past suspicion into present confidence.

Since the Lyndhurst Meeting that I have referred to, various letters and communications on this subject have appeared in the Press and have been broadcasted, in which the policy generally advocated may be summed up as—" Leave Well alone."

Now this policy is both right, and wrong.

It is quite right in those old woods where thicket undergrowth protects seedlings from their nibbling enemies, and where a succession of young trees is coming on to re-place decaying old trees.

It is quite wrong in other decaying woods where there is no protective undergrowth, and no succession of young trees coming on, but only a floor of moss and withered leaves, on which, here and there, may be found stunted seedlings nibbled and deformed by roaming forest stock. In such instances there is no question of " Leave Well alone," but the question is, are we justified in leaving Ill alone? Ought we not to welcome this " gesture " on the part of the Crown? Ought we not to advocate and support experiment on proven lines to promote renewal of such decaying woodlands?

The advocates of " Leave Well alone," as the one and only policy for preserving the old woods, both *ignore,* and *assume.*

They *ignore* the fact that there are certain decaying woodland areas in which natural regeneration is prevented by forest grazing stock, and they also *ignore* the mediæval evidence of encoppicement inclosure which I shall bring forward.

They *assume* primeval growth, untended by the hand of man, as the origin of the old woods that we all admire and wish to preserve—whereas the evidence of the past shows the hand of man, inclosing woodland areas with fencing against cattle and deer, as their probable, principal origin.

The following evidence supports this statement :—

In the 16th year of Henry VI. (1450) there are accounts referring to the inclosing of 785 perches by a hedge around a wood at Lynwode, with gates, hinges, haspes, etc.

In the 26th year of Henry VIII (1535) there is a note concerning Godshill Coppice, and money was paid " to divers persons " for the making of 10 furlongs 24 perches round the said coppice " for the safe keeping of the springs (young growth) or stools " thereof." (cf. " Thirty-five Years in the New Forest," by the Honourable G. Lascelles, p. 141).

Statutes of Henry VIII. 1544), and of Elizabeth (1570), making the practise of Encoppicing imperative, and enacting regulations " in and upon all and singular severall Woods commonlie " called coppice woods."

In 1571 we find presentments against the tenant of Ridley Coppice for " shrouding " (pollarding) 200 trees in the said coppice " and selling the same." Again, " for divers and many " young oaks felled for stakes for the hedge." (cf. " Brief History " of the Arboriculture of the New Forest," by the Honourable G. Lascelles, p. 4.).

In John Taverner's " book of Survey," 1584, of the Royal Forests South of the Trent, there are 35 separate woods in the New Forest, where it appears from previous or subsequent records an inclosed coppice existed. In the same year John Taverner was directed to notify the forestal officers " that both " the woodwards and the keepers have a diligent respect that " the springs of the coppice be kept fenced and preserved from "destruction by any manner of cattle or beasts." (cf. "Victoria "History of Hants," Vol. II. pp. 446-447).

In "A Treatise of the Laws of the Forest," by John Manwood, first published in 1598, we find the following references to coppices and inclosures in the Forest. Cap. 23. "The charge "given in the Swanimote—19 Item, If any commission were "directed to any wood-sellers for the sale of the great woods "and underwoods, or either of them; if the same wood-seller "have made the hedges and fencing of the coppices, for saving "the King's Covert. 20 Also, if any of the said wood-sellers "have concealed anything of the K. profit upon their account, "or if they have inclosed any moors, great plains, or waste "grounds, to the hurt of the commoners, or put any other cattel "into the Coppices and spring, or Wood than is allowed by the "Statute, you shall present the same."

Again, Cap. 24. "The charge of the Lord Justice in Eire "of the Forest that he doth give at the Justice seat." 74. (repeats the above item, ending—"Ye shall do us to weet" (to *wit, wite* or *weet*—to know).

The above references show that previous to 1598 "The King's Covert" in New Forest was inclosed and fenced against cattle, etc., and further, that the "wood-sellers," i.e., the lessees of encoppicements, found such fencing so profitable, that they were wont to make purpresture Inclosures to the hurt of the commoners.

In medieval times the process of Forestry seems to have consisted in inclosing an area against cattle and deer, and then in relying on natural regeneration from the mast of existing trees, together with a certain amount of sowing "acornes nutts and such like." (Norden's "New Forest Coppices," infra.) This was called "encoppicing," and when the coppice was established it was let on lease to a tenant under conditions. (cf. op. cit. by the Honourable G. Lascelles). We get details relating to this system of forestry from Norden's "New Forest Coppices"—a survey made in 1609, (Miscellaneous Books Land Revenue, Vol. 203), in which he gives plans of 14 coppices, with descriptions and valuations for rental per acre of each coppice, varying from viii d. per acre to iii s. per acre, according to soil and "underwoode"—"hazell thornes and lopped okes to be taken for "underwoode at the falls"; and the lessee appears to have "been bounde by covenant to supplie sundrye vacant places," (with sown underwood). Care of "younge saplines" is constantly reiterated throughout this survey, e.g. (in Ridley Coppice) "There be manie younge sapline okes which by noe meanes are "to be cutt, for when the underwoodes are gone, they will growe "bigger and prove timber trees for future ages." Again, (in Sloden "copps")—"It consisteth for the moste parte of holye "white and black thorne sett by thynn . . . and manie younge "sapline oaks and likelie younge ashes growinge as they have

" bene sheltered up almoste in eurie bushe which in the demise are " specially to be reserved—thoughe nowe the keepers breake off " and cutt off the principall braunches under couller of brouse : " an abuse intollerable." While the destructive browsing of cattle in " South Bemley (Bentley) Coppice," is thus censured : " At the laste fall it was fensed but the hedge was taken away " before due time whereby it was subject to the browsing of " cattle, and so spoyled as other many coppices have been by the " improvident woodwarde and his devouring deputies."

The very curious shapes of some coppices shown in Norden's plans (that cannot be accounted for by the lie of the land) appear to indicate that in setting out such coppices, an excrescence would be made here, or there, in order to enclose adjoining chance timber growth, that might be expected to supply seedlings for natural regeneration within the fenced encoppicement, i.e., Medieval Forestry.

In Ridley Wood we have present-day evidence of the presentments that I have quoted. Of " shrouding "—in the wood of ancient pollard beeches (the beautiful result of past misdoing) now past prime, with multiple limbs rising aloft from gnarled trunks into a canopy of tree-tops beneath which there is but scanty undergrowth to protect seedlings. Of " the hedge "—in the silted ditch and wasted bank on which stood " the stakes for the hedge," which have perished centuries ago, but the earthwork remains, and may be traced continuously around the area of pollard beeches. Both here, and at Sloden we have continuous earthwork remains of Encoppicement inclosures that date back to Henry VIII., or Elizabeth. So far, I have not found elsewhere such continuous earthwork remains of Encoppicement inclosures, but I do not think that this absence indicates that other old woods were not originally inclosed, but that they were only fenced round (as shown in several of Norden's plans), in which case all evidence of such inclosure would have perished during the intervening centuries.

A hedge, or fence on a bank with outside ditch appears to have been the exception not the rule for Encoppicements.

In New Forest Report, 1789, Appendix No. 35, out of twelve inclosures of which the fencing is mentioned in detail only three were " fenced with Ditch, Bank and Pales." The other nine were variously fenced—" with posts and 3 rails "—" with a " Quicksett Hedge "—" with Oak Posts, Pales and Rails."

Note. In the draft Report of the Select Committee on New Forest 1875, it is stated, p. VIII. : " Prior to the year 1698, the " whole of this area appears to have lain open and unenclosed." The entries I have quoted which are prior to the year 1698 show that this statement is erroneous.

Such is the evidence that convinces me that the essential origin of our ancient New Forest woodlands is due to the hand of man, and that fencing of areas against cattle and deer is experiment on proven lines—that has succeeded in re-stocking inclosed areas in the past, and may be trusted to do so in the future.

I believe that in certain decaying areas, the original Encoppicement policy of fencing against grazing stock that has mainly given us these old woods, is now the right policy for promoting their renewal. This was advocated in the 1875 New Forest Report by Messrs. Cumberbatch (1128), Jenkinson (1396), Pink (2540), Woolley (2651), and subsequently by Mr. Squarey—as a convert who declared: "If the present policy of abstention is "continued, the future of this wonderful bit of nature is gravely "imperilled." (Report of Mr. E. Stafford Howard to the Lords of H.M. Treasury, June 28, 1899, advocating re-inclosure of the old woods).

While endorsing such policy, I also desire to draw attention to the caution contained in Mr. Jenkinson's evidence (New Forest Report of 1875, 1462): "I think that before you "inclosed any of the old woods to any extent you should just "make an experiment on a very small scale in two or three "places, so as to see whether it would answer, or whether it "would not; and as for the undergrowth, it could easily be "cleared away if you had it on a small scale. These inclosures "ought to be carefully watched as an experiment, and you would "see what the result would be."

With the same end in view, Lord Henry Scott recommended that small Inclosures of "not more than 3 acres," should be made in the old woods. (cf. 1875, New Forest Draft Report, p. XIV. (5) d.).

It should be noted that Forest beauty as an asset worthy of legislative preservation, was recognised for the first time in "The New Forest Act, 1877." Sec. 6. (referring to cutting trees in the Inclosures of 1698, 1808, and 1851): "Provided also, as respects "the lands in this section mentioned, that in cutting timber or "trees for improving the woods, or for sale, care shall be taken "to maintain the picturesque character of the ground, and not "wholly to level or clear the woods, but to leave from time to "time a sufficient number of the most ornamental trees; and to "keep the woods replenished from time to time by protecting "the self-sown plants, or by planting trees in the vacant spaces, "having regard to the ornamental as well as the profitable use "of the ground."

Sec. 8 (referring to the ancient woods): "The ancient orna-"mental woods and trees in the Forest shall be preserved, and "except in so far as is provided by this Act the Forest shall "remain open and uninclosed, and wood shall be provided for "the satisfaction of fuel rights, without the sacrifice of orna-"mental timber."

The present difficulty is that owing to the wording of Sec. 8 above, no such small Inclosures can be made—even to preserve what the Act intended to be preserved, namely, "the ancient "ornamental woods and trees." Hence Lord Lovat's "gesture," and desire to obtain commoners' consent to a bylaw authorising certain Inclosures to promote natural regeneration in specified areas of the open woodlands.

In dealing with such renewal we cannot but envy Methuselah's span, for tree growth takes toll of our threescore years and ten. However, if tree growth be slow, tree decay is also slow. In 1875 Report, Mr. Clutton—an experienced timber valuer—said: "Mark Ash will not exist 50 years hence, in my opinion." (1881. See also 1328, 1329). He was wrong. In 1926 Mark Ash still beautifully exists—though decaying, and lacking in renewal. After such warning I will not guess, but only suggest that there seems to be yet time available for experiment by fencing small likely areas against cattle, in order to gain experience that might ensure successful results in larger areas.

As a first step towards arriving at a just conclusion respecting this question, observant survey of the present condition of each of the old woods is needed. The problem, and (where necessary) the possible remedy will be found to vary in the different woodland areas. Such is my experience after many days spent in observing the present condition of old woods on the northern side of the Forest.

Out of ten woods which I (as an amateur) have thus surveyed, "Leave Well alone," might be said of seven, their future condition (on the whole) being assured by the plentiful crop of seedlings and young trees arising out of the undergrowth around the old trees.

But the remaining three, namely, Ridley, Bushy Bratley, and Old Sloden, raise this question—Are we justified in leaving Ill alone?

These three woodlands are decaying, and owing to lack of protective undergrowth, have no prospect of long future continuance, unless experimental attention is bestowed on them—either in the form of fencing to protect seedlings that are now being nibbled; or, as at Old Sloden, where there are hardly any seedlings, by planting oak, beech, yew, and whitebeam, in the open spaces, and fencing such planted groups against grazing forest stock and rabbits.

Now it seems to me that the preservation and continuance of the ancient Forest woodlands concerns us all, as I have said, and specially concerns several sections of our many-sided Natural Science Society. I need not expatiate on the importance of such preservation, nor dare I on secret haunts beloved by our Zoological, Entomological, and Botanical members—mindful of their wrath to come; but I should like to act as guide to a party of our members who are interested in this subject, and to take them through Ridley and Bushy Bratley as examples of old woods that are decaying, and that are deficient in natural regeneration;

and then through Ocknell and Anses, as examples of old woods where natural regeneration is abundant. Such perambulation would entail a ramble of perhaps five miles, would demonstrate the problem that confronts us in some of the old woods, and (I hope) would inspire members who are specially qualified, to make further survey in the old woods of the Middle and Southern areas of the Forest. Then, if they arrive at the same conclusion as I have, after my survey of the Northern side of the Forest, I suggest that a Memorial from members of our Society addressed to Lord Lovat as Chairman of the Forestry Commission, expressing general agreement with his plan to re-stock (by inclosure) decaying areas in the New Forest, would support his policy of renewal, would carry weight, and would help to effect the result which assuredly we all desire, namely, "that the ancient ornamental "woods and trees shall be carefully preserved, and the character "of the scenery shall be maintained."

†With all due deference, I do not couple Bramshaw wood with Mark Ash. The latter decaying, with scanty natural regeneration; the former (for the most part) in vigorous old age, with plentiful assurance of natural regeneration.

*The "fence month" began 15 days before Midsummer, and ended 15 days after Midsummer; it was originally enforced in order to "make provision for the quiet and safety of the wild beasts during the "time of their fawning." *Manwood's Forest Laws Chap. XIII.* "Winter heyning" was a period from November 11 to April 23, when commoners' cattle were supposed to be excluded from the Forest, 1868 Report, 898.

Selected Papers.

"Theories Relating to the Earth's Surface."

By HENRY BURY, M.A., F.L.S., F.G.S.,
formerly Fellow of Trinity College, Cambridge.

The inequalities of the earth's surface are so conspicuous that they must have attracted the attention of thoughtful men from the earliest times, yet it is not until well on in the nineteenth century that we find any comprehensive and plausible theory as to their origin. The view then generally accepted, and for which our great English geologist Sir Charles Lyell was largely responsible, was that the contraction of the earth, as a result of secular cooling, threw its outer crust into a number of folds, the downward folds giving rise to the ocean basins, while the upward ones formed the continents, and (where the action was most intense) the great mountain chains. These folds, however, were by no means constant in position, and every part of the earth's surface was supposed, in the course of geological time, to have undergone a series of up and down movements, as a result of which land and sea were constantly changing places. The former submergence, on more than one occasion, of the continents is shown by the occurrence, on almost every part of them, of marine strata of varying ages; and the former emergence of the ocean beds as dry land, though it could not be established by direct observation, was held to be proved by the distribution of animals and plants, it being thought by both geologists and biologists that the resemblances in the fauna and flora of distant continents could best be explained by postulating former land connections between the regions in question. It was not long, however, before this part of Lyell's theory met with strong opposition. It was pointed out that the majority of the strata found on the continents are of shallow-water origin (sands and muds), and that even the chalk, which was at one time compared to the Globigerina ooze of the Atlantic abysses, was almost certainly formed at quite a moderate depth; and it was therefore inferred that the great ocean basins were of a permanent nature, and were not to be regarded as the graves of lost continents. But although this view was accepted by Alfred Russel Wallace, and declared by him to be quite consistent with the facts of geographical distribution, yet most modern biologists adhere to the belief in the former existence of land connections across some at least of the great oceans; while some geologists maintain that abyssal deposits are quite as frequently found among continental strata as we have any right to expect.

Other objections to Lyell's theory were raised by the Austrian geologist, Edouard Suess, who, while admitting that there had been an actual uplift of the land in the case of the folded mountain chains, maintained that in most parts of the earth's surface the movements had been in a downward direction only, and that the emergence of the continents was due to a lowering of sea-level rather than to an uplift of the land. One of the effects of contraction of the nucleus would be to leave portions of the crust unsupported, and these would then collapse and sink inwards: but the hollow so formed would be filled by the sea, which must for that purpose be drawn away from other regions, and where the area of subsidence was a large one, the level of the sea would sink over the whole globe. In this way Suess explained the existence of immense continental areas (e.g., the Russian plain) in which the strata were practically horizontal, and also the occurrence of raised sea beaches extending, without change of level, for hundreds of miles. In both cases the apparent uplift of the land is really due to a lowering of sea level.

Suess also called attention to the phenomena of "transgression," which he held to be incompatible with Lyell's hypothesis. We find evidence in geological history of long periods during which the sea was gradually becoming deeper, and advancing further and further over the former land areas; and then this period of "transgression" comes to an end, and is followed by a regression of the sea, which is usually much more rapid than its advance. An admirable example of this is afforded by the Cretaceous Period. The Wealden strata are fluviatile or estuarine, but the sea soon advanced, and the Lower Greensand was formed in shallow water. The Gault and Upper Greensand transgress still further over the land (in Devonshire the Gault rests directly on the Permian), and the sea was evidently deeper; while the maximum of transgression and depth of sea was reached in the time of the Chalk. After that there was a comparatively rapid regression, and the Chalk emerged as dry land for a time, before it was once more buried under the Eocene seas.

These world-wide movements are, on any hypothesis, very difficult to explain. The regressions Suess attributes to the collapse of large areas of the earth's crust, leading to a general fall of sea-level; but the causes of the transgressions are more obscure. The filling up of the sea by sedimentary deposits may have played a part, but could not have produced all the change in level observed; and although Suess suggests one or two other possible influences, he admits his inability to offer a complete solution of the problem.

Suess's suggestion that whole continents have been faulted down to the bottom of the oceans, and cannot be lifted up again, disposes of the conflict between geologists and biologists over the permanence of ocean basins; for it is part of the hypothesis that each of these basins (with the possible exception of the Pacific) was formerly occupied by a continent, and since there has been no uplift, no abyssal strata are to be expected in the existing continental areas.

It cannot be said, however, that Suess's hypothesis is very much freer from objections than Lyell's : there is a general consensus of opinion that he has underestimated the amount of vertical uplift that can occur; while the vast subsidences would require a greater amount of radial contraction than most physicists are prepared to grant. Osmond Fisher indeed declared that this radial contraction in geological times could only amount to a few feet, and his view that it is at any rate altogether insufficient to account for the earth's greater inequalities has been widely accepted of late years. Dr. Harold Jeffries has, it is true, combatted this conclusion, and maintains that the contraction is more than sufficient to explain the formation of the mountain chains, yet, for reasons which will appear later, it is no longer possible to regard the floors of the ocean basins as consisting of fragments of lost continents.

Another objection to Suess's theory lies in the nature of the faulting by which the lowering of the subsiding blocks is supposed to have been effected. Such faults, and indeed most of the faults which we meet with in geological formations, seem to imply a tangential tension in the earth's crust, instead of the compression, which alone should result from contraction : and indeed clear evidence of the existence of such tension has accumulated since Suess's day, and will have to be taken into consideration in any future hypothesis regarding the earth's surface.

Another hypothesis, also dependent on the contraction of the earth, is the Tetrahedral Theory of Lowthian Green. According to him the outer crust, in adjusting itself to the shrunken nucleus, would tend to assume the form of a tetrahedron, a figure with four faces and four solid angles, which affords the largest surface with a given volume. The sea would collect on the flattened faces, while the solid angles and edges would form the continents, and the strain at these edges would be from time to time relieved by crumpling and folding of the crust, giving rise to the mountain chains. But although this hypothesis gives a fairly plausible explanation of the present distribution of land and sea, it presents many difficulties, and receives little support at the present day from either geologists or geographers.

Observations on gravity during the last seventy years have led to the general acceptance of the theory (Isostatic Theory) that the earth's crust consists of two layers, an outer and lighter one, composed mainly of granite, and known as " Sial "; and a lower and heavier layer, or " Sima," of which the main ingredient is basalt. The Sial forms the continents, while the Sima underlies them and comes very nearly, if not quite, to the surface in the depths of the ocean basins. Although this basaltic layer is physically speaking solid, yet under the enormous pressures and high temperatures prevailing under the continents at a depth of twenty miles or more, it becomes plastic, and yields to pressure, so that the Sial actually floats upon it, obeying the same laws of equilibrium which govern the flotation of ice in water.

Although this theory affords no explanation of how the mountain chains were formed, or why the Sial is concentrated in the continental areas, instead of being spread more or less uniformly over the earth's surface, yet it has an important bearing on certain other geological problems. Any additional weight laid upon a sufficiently wide area should cause the Sial in that region to sink deeper into the Sima; and in this way we have a partial explanation of the curious fact that strata which we know were deposited in shallow water (e.g. sandstones) may attain a thickness of several thousand feet. Clearly deposition and the sinking of the sea floor kept pace with one another, and the weight of the material deposited may have contributed to this subsidence, though it cannot have been the sole cause. Similarly the addition of immense thicknesses of ice to certain regions during the Glacial Period caused subsidence in those areas, which rose again when the ice melted, though, owing to the viscid character of the Sima, the emergence was very slow. Thus Scandinavia, which sank down nearly 1,000 feet in glacial times, is still rising (about 3 feet in a century) although the last of the ice disappeared some 10,000 years ago. The mountain chains must also have risen as they were lightened by the removal of strata by denudation, so that, although several miles of strata have been removed from the summit of the Himalayas, they probably never rose to a much greater height above sea level than at present; while the reduction of a mountain to anything like sea level must be a vastly slower process than the older geologists ever imagined.

Since the floors of the great oceans consist of Sima, with, at most, only a thin covering of Sial (a thick layer would necessarily float upwards) it follows that these floors cannot be the remnants of old continents, folded or faulted down; and hence the controversy over the distribution of animals and plants is raised again in an acute form : but since an entirely new solution of this problem is offered by Wegener, we will next proceed to an examination of his startling theory.*

Not content with the general principle that the continental masses rest in isostatic equilibrium on an underlying plastic layer or magma, Wegener imagines that they float so freely upon it as to be easily moved from one position to another, the principal causes of movement being (1) a centrifugal tendency, leading to migration from the poles to the equator; and (2) a tidal influence, producing motion towards the west, under the attraction of the sun and moon. The Sial is supposed to have been concentrated originally in one vast continent, but this split up in Palæozoic times into a number of fragments, which have been moving apart ever since, and although the movement was extremely slow (often not more than a few inches in a year) yet the masses involved were enormous, and the force developed was sufficient, in many cases, to fold and crumple the Sial against the solid Sima which forms the ocean floors. In this way the Rocky Mountains and the Andes have been formed in America, which has moved westwards more rapidly than the Old World; and similarly the great east and west ranges of the latter—the Pyrenees, Alps, Atlas, Caucasus, and Himalayas—are due to movements towards the equator.

Space does not allow us to examine at all fully the evidence on which Wegener relies in support of this remarkable theory, and only a few of the more salient points can be considered here. First of all he calls attention to the general parallelism of the two sides of the Atlantic (better seen on a globe than on an ordinary map), which he attributes to the Old and New Worlds having been originally in actual contact, the convex portion of West Africa joining on to the West Indies, and the eastward curve of South America fitting into the Gulf of Guinea. It is found too that the geology of the opposite coasts is strikingly similar in many places.

We have already seen that there is a sharp conflict between those who maintain that the ocean floors consist of almost bare basalt, and those who, in order to explain the distribution of animals and plants, postulate a number of former continents now sunk beneath the sea. Wegener, however, claims that his theory of continental displacement enables us to reconcile these opposing views; for if the existing continents were formerly in contact, and their separation has taken place at various geological epochs, then all the main features of geographical distribution can be explained without doing violence to the isostatic theory.

Geologists have long been puzzled by the presence of semi-tropical fossils in high latitudes, and of glacial deposits far away from the poles; and a shifting of the positions of the latter has often been suggested. But even in this way it was never possible to explain the distribution of the "Glossopteris" flora of the Permian glaciation; for every polar position suggested left some of the strata in question close to the equator. Wegener, however, by postulating migration of the continents as well as the poles, claims to have solved this problem: but while it must be admitted that he offers a more complete solution than any of his predecessors, yet he seems to have overlooked certain Glossopteris beds in Baluchistan, which must, on his hypothesis, have been close to the equator in Permian times.

Not content with hypothetical arguments, Wegener claims to have actual proof of continental movements at the present day. Certain observations of longitude made many years ago, when compared with the latest data, certainly seem to show a considerable movement, towards the west, of Greenland, and a lesser movement of North America; but the methods employed in the earlier observations are liable to such wide errors that few geographers attach much importance to them. Fortunately we now have at our command, with the help of wireless telegraphy, methods of such precision that, if any movements approaching those alleged are in progress, they should be clearly demonstrable in the course of the next ten years.

That the Displacement Theory of Wegener has some attractive features cannot be denied, and one feels that, with its power of explaining so much, there should be a germ of truth behind it; but, in the form in which its author presents it, it is open to insuperable objections. Wegener himself insists that the underlying magma (Sima) is a viscid solid, and not a true fluid : but in that case the friction to be overcome is enormous and the forces supposed to overcome it disproportionately small; and even supposing that they are just sufficient, in the course of millions of years, to produce movement, the figures given by Dr. Harold Jeffries† prove that it is utterly impossible that they should ever have developed the enormous energy required to fold the mountain ranges, and to lift them up in opposition to gravity.

When radio-activity was discovered, Prof. Joly was one of the first to recognise its geological importance. It was soon found that the Sial, the mean thickness of which is estimated at from 20 to 25 miles, contains enough radio-active material to account for all the heat which is being lost at the earth's surface; and although the activity in this respect of the basalt is only about one-third that of granite, yet such heat as is produced in it, being unable to escape through the Sial, must be stored up in the Sima, which is thus maintained at or very near its melting point. But before a solid can turn into a liquid an enormous amount of " latent " heat must be absorbed, which does not raise the temperature, but is expended in producing molecular changes; and Prof. Joly estimates that, in the case of the Sima under the continents, this will take about twenty to thirty million years. Under the oceans the conditions are slightly different, since a great thickness of Sima is cooled by proximity to the sea; but there is also a depth at length reached at which heat is produced by radio-activity more rapidly than it can escape; and therefore a liquid layer will ultimately be formed in all regions, with results which we must now endeavour to trace.

The heating of the Sima will lead to expansion, and reduction of density. The lower density will cause the blocks of Sial to sink deeper, giving rise to a slow transgression of the sea over the lower parts of the continents; while expansion will produce cracks in the crust, some of which, with the centre faulted down, will survive, as in the case of the Great Rift Valley of Africa; while others will be filled with liquid basalt, which may flow out in immense sheets on the surface, as in the case of Antrim and Staffa, and, on a still grander scale, in the Deccan in India.

When liquefaction is complete, the continents may be able to move freely, as demanded by Wegener's Displacement Theory; but these movements will expose new surfaces of Sima to the cooling influence of the sea, and this, combined with the outpouring of sheets of lava (some of them at the bottom of the oceans), will cause heat to be lost at a far greater rate than it can be replaced by radio-activity, with the ultimate result that the Sima will once more resume a solid condition. This will be accompanied by an increase of density, which will cause the Sial blocks to rise, and so produce a retreat of the sea and the emergence of new land surfaces. There will also be contraction; but since the crust has been increased in area by lava-filled cracks, this contraction will be strongly resisted, and will lead to crumpling and folding of the continental masses, especially along their margins, where they press against the solid basalt of the ocean floors. Finally, when all these adjustments are complete, the heating up of the Sima begins again, and another great cycle (or revolution, as Prof. Joly calls it) is initiated.

It is perhaps permissible to doubt whether this hypothesis, or any other which depends on isostasy, accounts satisfactorily for the existence of the great ocean "deeps," lying far below the general level of the Sima, or for the immense thickness attained by some of the shallow-water deposits; but on the other hand, in its power to explain the great revolutionary cycles (transgression, emergence, and mountain building) of which we have just spoken, and of which geology offers many examples, it is a great advance on its predecessors. It also accounts for the presence in the earth's crust of forces of tension as well as of compression; while, by the removal of some of the greatest obstacles, it revives our interest in Wegener's Displacement Theory.

*"The Origin of Oceans and Continents," by A. Wegener. English Translation, London, 1924.

†"The Earth, its Origin, History and Physical Constitution," by Harold Jeffreys; Cambridge, 1924, p. 261.

"The Vegetation of the Coastlands."

By W. Munn Rankin, M.Sc., B.Sc.

The wide variety of the vegetation of the natural soils of the coast, undisturbed by man, emphasises the importance of the physical factors of the soil in determining the character of the vegetation. Within a few miles stretch of coast where the purely climatic factors of sunshine, temperature, wind and rainfall can vary only but little from place to place, many distinct types of vegetation may frequently be recognised.

In the wide sweep of Christchurch Bay, as generally understood, extending from Hurst Castle to Old Harry Rock and Ballard Down, or even including the strictly local Swanage Bay to Durlston Head, the variety of coast-lands includes shingle beach, sand-dune, salt marsh and sea cliff. The climatic factors do not vary much between one extremity of this wide embayment and the other. Nor is it conceivable that the agencies effecting the distribution of seeds or spores of plants composing the flora have been discriminate. The strictly local occurrence of certain species among the Studland dunes, and of others on the scantly soil of the face of the chalk cliffs of Ballard Down or Durlston Bay, can scarcely be due to the operation of strictly local climatic features or some chance vicissitude of plant dispersal. On the contrary, the determining factors of the distinct types of habitats seen in the shingle spit of Hurst, the dunes of Mudeford, Sandbanks and Shell Bay, the salt marshes of Christchurch Harbour and of Poole Harbour, and the sea cliffs in various lengths of the coast-line, are all appertaining to the soil. The climatic and floristic factors of course play their roles in the composition of the vegetation of a particular habitat, but within the narrow limits of a few miles these are subordinate to the soil or edaphic factors.

The edaphic factors of a particular habitat, say a sand-dune or salt marsh, when analysed by a careful and detailed study in the field or laboratory, are found to be concerned chiefly with the soil-water available to the plants, its degree of sufficiency and its mineral contents. Thus where the supply of sweet water is always abundant, the vegetation differs in almost every respect from that prevailing on soil liable to prolonged drought; again the mud flats flooded periodically by tidal water bear vegetation widely different from that bordering on fresh water lake or stream, and, to give a final contrast, the vegetation of the chalk down pastures, rooted deeply in a mild alkaline sub-soil, is quite distinct from that of the heath of sand or gravel, where the soil-water lacks mineral bases and is charged with humic colloids. Within the narrower limits of the coastwise vegetation as developed on the borders of Christchurch Bay, similar contrasts of habitats occur frequently enough to persuade even the most casual observer of the importance of the soil differences in determining the detailed features of the vegetation.

The chief types of coastland found in this country are all represented within short distances of Bournemouth; these are

Sand Dune Vegetation.
Salt Marsh Vegetation.
Shingle Beach Vegetation.
Sea Cliff Vegetation.

The development of sand-dune vegetation in Studland Bay is so rich in variety as to number the dunes among the classic habitats, which would fully justify to diverse students of nature the preservation of the coast of Shell Bay as a National Reserve. The spartina marshes of Poole Harbour, in their place, can be similarly numbered among the local habitats of general interest. The development of shingle beach societies on Hurst Spit, though interesting enough, is not so typical or outstanding as that on the much larger Chesil Bank. The flora of the local sea-cliffs has no special interest.

Sand Dunes.

The typical collection of sand hills is accumulated behind a sandy beach by the united and interacting operation of wind and one or two plant species of special habit. The chief dune former is Marram grass. An occasional assistant behind broad, open beaches is the Sea-Couch grass, or more rarely, Lyme grass. These grasses hold down the loose sand and, accumulating more and more, construct mounds or hillocks, which, contrary to any reasonable expectancy, may persist for centuries. In favoured localities the sand-dunes increase in number by lateral accretion and the tidal margin is pushed further from the original shore. Where a broad belt of dunes has thus accumulated several interesting features can be generally made out.

Most commonly three distinct zones of dunes are distinguished. First the uncertain or irregularly developed belt of low *wandering dunes,* lying below the main semi-fixed or white dunes and between these and the tidal limit on the beach of the heavier storms; secondly these main, or *semi-fixed dunes,* practically built around Marram grass alone; and thirdly, behind these white dunes, the elder, superannuated *grey* or *brown dunes,* occupied by a much varied vegetation in which Marram grass, typically, plays little or no part. Only after a " blowout " when by some violent storm of rain and wind an old protected dune is stripped of its covering and the raw sandy soil again exposed freely to the wind, does the Marram grass re-enter the inner zone of fixed dunes and begin over again the business of consolidation of the loose sand.

The varied turf of the old dunes is an expression of two sets of changes in the soil; the leaching from the soil by rain of the more soluble mineral substances derived from the former beach material, and the humification of the soil, or even peatification, by the steady addition of waste of plant growth, of humus strictly understood, where the mineral content of the soil encourages the formation of mild humus, and of peat, or raw, acid humus, where the soil is quickly washed clean of fine silt or chalky substance. At Shell Bay, Marram dunes in the course of time have passed over into heaths of ling and bell heather.

Another feature of interest to be seen in any wide expanse of dunes is the development of a special type of fresh water marsh in the hollows among the dunes. Contrary to a rash suggestion, the seepage from the sand hills is for all practical purposes sweet water, and the pools which accumulate after rain are fresh. Even after a prolonged summer drought the water table of the dune hollows is never far below the surface, and the soil is plainly moist and suited to maintain at all times a special type of low marsh. The flora of these dune marshes is extraordinarily rich in species, both in number and in special forms, making them of great interest to the ordinary field botanist.

Another topographical feature of a duneland of great interest is occasionally developed, where a line of dunes has grown up some distance in front of the rising " hard land " and in the space between, at the distal or growing end of the dune line, a salt marsh has silted up, so obstructing the drainage further up as to form a shallow fresh water pool. Such a pool or lake is distinguished by geographers as an étang—Littlesea is a typical étang. The waters of Littlesea are fresh and consequently its borders are fringed by the normal reed belt. It is only at one egress, where at long intervals sea water rushes through a gap in the dunes, corresponding to a former outlet of the lake, that the reed belt belongs to the salt-marsh type.

The silted up salt marshes north of Littlesea, towards the entrance to Poole Harbour, form two distinct belts; one between the true heathland and the first line of old dunes, and the other between this and the much more recent line of active white dunes. This brackish marsh is characterised by the growth of the sea rush and of the black beakrush, and by a peculiar assemblage of many smaller plants. It is in marked contrast with many neighbouring wet soil vegetations, with the true salt marsh of the tidal flats, with the reed swamps on the borders of Littlesea, and with the low marshes of the dune hollows. Perhaps the most striking contrast is seen on the margin of this brackish marsh, where it laps the rising slope of the outer Marram dunes. A narrow belt, of a few inches only, where the dune sand is perpetually moist, is occupied by a distinct flora, among which Cicendia is the most interesting, and bog-pimpernel and Radiola, the most striking.

Salt Marsh.

The master factors of the salt marsh are first the high salinity of the soil water for the greater part of the inter-tidal periods, and the varying periodicity of the inundations according to the level of the station and to the monthly and annual progressions of the tides. In a complete development of salt marshland, such as, however, is rarely found in any single area, several distinct zones can be distinguished. These depend upon the degree of salinity or brackishness of the soil water, which in its turn is related in the first instance to the frequency and time of tidal inundations and, during the intervening undisturbed exposures to the atmosphere, to the opposed moderating effect of rain water and dew, and accentuated by drying of the soil by sun and wind.

The true salt marsh can be established between the tidal reach of the ordinary tides. Vegetation first appears at levels which are inundated only by the average high tides monthly, and are therefore exposed for the greater part of the normal month. Here is glass-wort and, especially in our neighbourhood, Spartina. During the periods of low spring tides this zone may remain uncovered for many weeks following.

The next higher levels are less frequently inundated by the higher spring tides, and are therefore still longer exposed to both the drenching by the rain and the desiccation by the drought. The highest zone is flooded only twice a year, i.e., at the highest spring tides, at the equinoxes, i.e., about early April and October. This zone is the brackish marsh of rushes and large sedges. Between the lowest belt of salt-wort and the highest of rushes, several more or less distinct belts under favourable circumstances can be made out. The composition of the vegetation is further determined by the character of the mud, whether it is sand, or fine silt, and so on. It is therefore not possible in a general account to attempt any distinguishing of zones. In Poole Harbour there is no regular zonal sequence to be easily distinguished; it is sufficient that here the Spartina marsh, about the mud salt-wort level, attains such magnificent development.

Shingle Beach.

The shingle beach is built up of well rolled and coarse pebbles. In our neighbourhood flint pebbles derived from the wastage of the plateau and valley gravel form by far the greater part of the material. Hengistbury Head Spit contains a fair admixture of ironstone pebbles, derived immediately from the ironstone bands in the cliff and the ledges at the base.

The gravel produces practically no true soil, and such vegetation as establishes itself is adapted, by habit of flat rosettes of swollen foliage and long tap-roots, to life in a mobile naked subsoil. Moisture, and that sweet and abundant, covers the pebbles from the superficial six inches or so downwards. Black rotting waste of sea weeds and marine animals is also abundant in the depths. There is therefore no lack of either food or moisture for such few species of plants as can master the difficult circumstances of an active shingle spit.

The face of the spit is terraced by a series of tidal and storm beaches. The highest level where rough waste decays affords opportunity for the special chenopods and umbellifers which prefer garbage for soil. The crest also shows patches of the same plants.

The back of the shingle spit slopes more gently towards the sheltered lee waters. It is characterised by an irregular series of combe-like hollows associated with spurs. These are caused by floodings through the spit in heavy weather, when it is as much water as pebble. On long undisturbed slopes on the back mats of vegetation spread themselves, of chenopods, of sea-campion, etc. On the lowest margin, just about the normal tidal limit, the vegetation is more abundant. At the tidal limits are narrow zones of brackish and salt-marsh vegetation.

Sea Cliffs.

The typical cliff species are restricted to bare ledges or shallow soil exposed to the full blast of the storms. They tolerate the drenchings by salt spray and the subsequent increase in salinity of the soil under the drying winds. Rains again reduce the soil salinity towards the normal low value. Sea-campion, cabbage, carrot, and thrift are common on the highest levels, and samphire lower down as far as the limit of waves in storm.

The sea-cliff vegetation, like that of the shingle beach, consists essentially of strictly local societies of a few plants, or even of solitary plants. In both cases annuals predominate, in contrast with the sand-dunes and salt marshes where in a continuous sward the perennials prevail. Annuals occur in these two latter formations only where fixity of tenure is hard to come by, as in the strand on the sandy beach where the storm waste lies and at the lowest edge of the salt marsh where tidal action is most frequently experienced.

"The Organization and Operation of a Mosquito Control."

By J. F. Marshall, M.A., F.L.S., F.E.S.

Mosquitoes are to be met with all over the world, the total number of species at present known being 1,400. They are separable into two great divisions, the Anophelines and the Culicines, and to the latter group belong about three-quarters of the mosquitoes of the world. In England we have 25 different species, only three of which belong to the Anophelines.

The mosquito is a two-winged insect with a long proboscis and two pairs of appendages called the antennæ and the maxillary palps. The proboscis is actually a sheath, containing, in the case of the female, a formidable collection of pointed instruments, used for piercing the skin and sucking the blood of human beings and other animals; four of these make the holes, and the two upper weapons, when pressed together, provide two parallel channels, through which the mosquito simultaneously imbibes our blood and inoculates us with saliva. The male is less formidably equipped and is therefore a compulsory vegetarian, a gentle, almost lovable creature, subsisting on the juices of plants and other liquid forms of nutriment. On this diet the female also can subsist, but it is generally believed that a meal of animal blood is indispensable as a preliminary to egg-laying.

The proboscis of the male, though innocuous, outwardly resembles that of the female.

The antennæ are slender, or threadlike, in the female, bushy in the male. The maxillary palps are also quite different in the two sexes, those of the male being long and feathery, of the female more or less smooth or rod-like.

The three British species, Culex pipiens, Theobaldia annulata and Anopheles maculipennis are generally known as " domestic " mosquitoes, because the females live in close association with human beings, or with domestic animals, throughout the winter months. The first two hibernate in cellars and attics, the last in stables, cowsheds and pigsties. The presence of hibernators in a house is highly undesirable, since they are apt to wander and attack in the night-time. All householders (especially those who live in steam-heated houses) should therefore make a point of examining cellars, attics and other dark recesses as winter approaches, and destroying any mosquitoes that may be found, by means of fumigation or spraying. In the case of all other English mosquitoes, males and females die off before winter, the winter months being passed in either the egg or larval stage.

In the Culex pipiens the palps are very short—about a fifth of the proboscis length—this is, in fact, the chief distinctive feature of Culicine as opposed to Anopheline mosquitoes, in which the palps are about the same length as the proboscis.

The Theobaldia annulata, or large domestic mosquito is common all over England and it is the largest in Europe. It is the only English variety with spotted wings and also with white bands on the legs, and is in fact a very handsome insect. It breeds in very foul water, such as is found in badly drained stable yards. Its bites are often very dangerous, and it may be regarded as the most serious " nuisance producer " of inland districts.

Some 30 years ago Sir Ronald Ross made the important discovery that the disease of malaria was conveyed from a sick man to a healthy one by the successive bites of the same mosquito : and time has shown that each of the many species which can carry this disease belong, without exception, to the Anopheline tribe. The chief malaria carrier of Europe is the Anopheles maculipennis. It is quite common in many parts of England, but since the conditions necessary for its infection are virtually non-existent in this country at the present time, this aspect of the subject is, for us, of little practical importance. It is a great mistake, however, to suppose that British Anophelines which do not happen to convey malaria and British Culicines which cannot do so are therefore to be regarded as harmless insects. On the contrary, there are many localities where they create an intolerable nuisance every summer and autumn, and their bites often have serious or even fatal results.

Eggs and Larvæ.

Different species lay their eggs in very different ways, some separately on the surface of water, others separately on dry ground; in the latter case, the eggs remain in a state of suspended animation (often for long periods) until brought into contact with water. Others lay their eggs on water and, simultaneously, stick them together, so that they form curious conglomerate masses called "egg-rafts," composed of about 300 eggs somewhat resembling a rifle bullet in shape and about a 32nd of an inch in length; these may often be found in water butts.

When a mosquito egg has been in contact with water for a certain period, varying according to many circumstances, it hatches out into a larva, a curious wriggly creature which cuts its way out of the shell by means of a sharp spike affixed to its head. The mouth of the larva is furnished with two movable brushes, with which it creates a miniature whirlpool in the water and thus attracts floating particles of food. It is a voracious feeder, and increases greatly in size before it is fully grown; in many cases it attains a length of half an inch, and is thus easily visible to the naked eye, often immediately under the surface of stagnant water.

The larva of a Culicine mosquito breathes by means of a tail-like organ called the Siphon, which it pushes just through the water surface to establish communication with the air, and a pair of tubes from the extremity of the Siphon convey air throughout the interior of the larva. In the Anophelines the Siphon is replaced by a pair of breathing orifices, so that the larva lies horizontally beneath the surface when breathing. During its period of growth, the larva changes its skin no fewer than four times, the stages between successive "molts" being known as "instars." After the fourth "molt," the larva becomes a pupa, a bulbous creature with a lobster-like tail. Contrary to the larva, the pupa hangs tail downward in the water, taking in air through a pair of trumpet-like tubes projecting from its thoracic region. It has no mouth and therefore neither eats nor drinks. After a few days the pupa splits open and the adult mosquito struggles forth. Newly hatched, it uses the cast-off skin as a resting place while its wings dry and harden, and very soon flies away. As the larval and pupal stages are passed entirely in water and occupy a period varying from three weeks to several months, according to local influences, it follows that mosquitoes are only produced in districts where water is permitted to stagnate for long intervals of time.

A thorough knowledge of the habits of different species is essential to the mosquito controller, as each species displays great discrimination as regards the special situations which it selects for its breeding, and its choice depends upon a number of factors which it no doubt understands better than we do. Certain species appear to possess a sufficient knowledge of engineering to enable them to lay their eggs in depressions or low-lying areas which, although dried up at the time when the eggs are deposited, are destined to collect water in the wetter months. The degree of acidity or alkalinity of the water is of importance, as also is the propinquity of suitable food material, such as, in the case of the " rural " mosquito (Aedes rusticus), hazel leaves. This species is easily recognisable by its brown thorax with dark longitudinal stripes, as well as by the central widening of the light transverse bands on the abdomen, giving the effect of a more or less continuous median stripe. This is a " one-brooded " species, hatching out early in May. The Finlaya geniculatus, easily known by its triangular white lateral markings and its brilliantly white knee-joints, lays exclusively in rain-filled cavities in trees, a peculiarity which it shares with two other English species.

In the Aedes detritus the dark parts of the abdomen are sprinkled with white scales, giving it a sort of speckled appearance, and it has a row of dark spots on the underside of the abdomen. It is met with exclusively close to the sea, being one of the two British species which breed in stagnant salt or brackish water; the other is Aedes caspius which, however, is sometimes found breeding inland. Such waters are common in low-lying districts on our south and west coasts, and often the inhabitants are pestered by salt-water mosquitoes every summer and autumn. The hatching-out period of A. detritus is exceptionally long, adults appearing from March till November. The eggs are laid chiefly on marsh land near the sea, remaining in a state of suspended animation for many months (or even possibly years) until, owing to excessive rainfall or other causes, they are brought into contact with water; hence enormous numbers, newly hatched, often appear after a spell of wet weather. The length of their flight is very much greater than that of fresh water breeders, and, as it has been definitely established that they can infest a district at least two miles distant from the breeding places, it is therefore clearly useless to paraffin stagnant water merely within the affected district. Reclaimed land often serves as a " broad-casting station " for salt water mosquitoes, owing to the percolation of sea water through defective sea walls or sea banks. In such areas the larvæ of A. detritus may commonly be found in all stages of development in every month of the year.

In starting a campaign against mosquitoes in any particular district, the first requisite is to identify the locally prevalent species, and to estimate their relative importance as nuisance-producers, so that those causing the greatest annoyance may be attacked first. This information is obtained by collecting and examining specimens of adults and of larvæ. The female is easily captured. It is only necessary to wait until a mosquito settles on a wall or on its prospective victim, and then slip over it a small glass tube containing some substance such as potassium cyanide, chloroform, or petrol, whose vapour will kill the insect. A simple way of preparing such a tube is to fix a plug of cotton wool moistened with petrol into its closed end by means of a tightly fitting disc of cardboard. Larvæ, easily visible in stagnant water, may be collected in a white enamelled dish, care being taken not to give them any preliminary warning, lest they quickly dive out of sight. A better tool is a " pond-life net " with a telescopic handle, which may be improvised with any wide-mouthed bottle, an old handkerchief and a piece of wire. Captured specimens are identified by examining their " Siphon " with a hand lens or a compound microscope, according to their size. On each side of the " Siphon " there are one or more tufted hairs, and also a row of spines known collectively as the " pecten." The varying character and relative positions of the hair tufts and the " pecten " afford a ready means of identification. A knowledge of the different larvæ at different seasons is important, if only because some appear earlier than others, and it is advisable to give prior attention to those breeding places which are " next on the list " as regards the production of adults.

In the summer of 1920 the mosquito nuisance of long standing in the neighbourhood of Hayling Island had reached an acute stage, and it was easy to catch any number of females. It was found that practically all were of one species only—the salt water breeder, Aedes detritus. Later the larvæ were found in abundance in two separate areas containing many deposits of stagnating salt water, both about a mile and a half from the centre of the infested district. Steps were taken to prevent any breeding, and the nuisance has been entirely abolished.

Experience has shown that the only effective means of controlling mosquitoes is to attack them in the larval stage, either by destroying the larvæ or by abolishing the stagnant water in which they breed. To discover the haunts of the larvæ, any collection of water, large or small, must be rigorously inspected. Salt marshes, woodland pools, roadside ditches, undrained stable yards, or even discarded tins and bottles filled with rainwater must be regarded alike with suspicion; pools, ditches, etc., dried up during periods of drought must be watched to ascertain when they become refilled with water. To each of these spots is given the name " water-place."

The routine work of a Mosquito Control divides itself naturally into three parts :—

(1) Inspection of water-places and identification of species of larvæ found;

(2) Destruction of larvæ, when found, by oiling, larviciding, or engineering methods;

(3) Recording details of the work done, the results attained, the scientific data collected, and so on; this may be referred to as " Control Station Organisation."

Larval Destruction.

Spraying with oil may be carried out at a moment's notice with a small " one-handed " pneumatic sprayer, using a pint of paraffin for 40 square yards of surface. It has even been carried out with great success on a large scale in many parts of the world; but it is sometimes an impossible task to produce a sufficiently lasting film, notably where the water surface is broken up by growths of weeds or is too freely exposed to the wind. Near the sea, where the most serious nuisance-producers abound, this method may be regarded as of no practical value. The alternative method is to use a larvicide—some chemical substance—in the infested water, so as to poison the larvæ. This, to be of any practical use, must satisfy three conditions; (1) it must be inexpensive, (2) it must be harmless to human beings and animals, and (3) it must be effective whether the stagnant water is fresh, brackish, or salt. At Hayling it has been found some years ago that a certain sanitary fluid containing 20 per cent. of soluble cresol fulfilled the above requirements very satisfactorily. One gallon of this fluid will effectually kill all mosquito larvæ in 20,000 gallons of water, the quantity of larvicide required being calculated by multiplying the area of water surface (in square yards) by the average depth (in inches) and dividing the product by 6000, the resulting figure being the number of gallons of larvicide required for that area.

To secure uniform distribution the total " dose " should be diluted with 3 or 4 times its bulk of fresh water, and the mixture introduced by instalments. One way is to use a watering can with a " rose " nozzle, the operator wearing waders and treating successive " strips " of water. Or he may " sling " it out of a handbowl, very little practice being required to distribute the mixture rapidly and uniformly in this way.

Killing, by oil or larvicide, is, however, at best a temporary expedient; the breeding place itself should be put out of action permanently whenever possible; and this may be managed (1) by filling it in with earth, (2) by draining, (3) by clearing obstructions and restoring the flow of water, (4) by maintaining communication with tidal water.

Organization.

The Hayling Station is completely equipped for Laboratory and Record work. The former requires microscopes, collecting apparatus, implements for dealing with infested water-places, incubators in which stages of development may be continuously watched; the latter, index cards, diagrams, illustrations, specimens of local species, and—most important—a 25 inch Ordnance Map, on which, by an elaborate system of reference numbers, the various water-places may be " indexed," and the progress of the work and of the " control operations " may be shown by the insertion of pins carrying half inch discs of coloured cardboard.

Space is lacking for further details of the work or of the Photographic Room and the Demonstration Museum, but persons practically interested in the movement can readily obtain permission for personal inspection.

"Roman Housing in South Britain (near Bournemouth)."

A.D. 253—378.

By HEYWOOD SUMNER, F.S.A.

EAST GRIMSTEAD, WILTS (near Dean).

A Well-to-do Man's Villa.

The general plan of 11 rooms excavated was of the corridor type. From east to west one room deep for 85 feet, then two rooms deep for 57 feet—total length 142 feet—walled courtyards enclosed spaces towards the south, containing one detached room and two detached bath-houses, with elaborate hypocaust heating arrangements, and floors (one of which was of white mosaic) supported by tile pilæ. The actual baths were in every instance lined with hard pink mortar. One of the corridor rooms was warmed by a composite hypocaust, i.e., flues extending beneath the floor (of rammed chalk) and carried up the inside walls with box-flue tiles. The room floors were in some instances tiled, but in most, of rammed chalk. The walls were about two feet in thickness, and in some places stood 2 feet 6 inches in height, and were built of large flints and heathstone set in mortar; chalk rubble footings descended 2 feet 10 inches below the lowest course of bedded flint walling; such deep footings and the discovery of large wall-buttresses in places suggested support for an upper storey. Inside, the walls were faced with plaster, gaily coloured with various spacing and plain patterns. The windows appear to have been glazed, judging by the amount of window glass found. A drain ditch carried off waste water from the site—in which many castaway relics were found of metal, pottery, glass, bone and oyster shells, but no cooking stones were found. The eastern wall of the villa courtyard was continued towards the south for 88 yards, and then turned at right angles and proceeded towards the west, indicating a large curtilage (Query, Fructuaria?) adjoining the villa. About 60 yards to the south-east of the site a small detached cold bath was found, approached by two steps down, and lined with hard pink mortar in perfect preservation, with a room adjoining—it probably served the needs of the slave workers on the farm. Fifty-nine coins in all were found dating from Gallienus (A.D. 253-268) to Valentinian I. (A.D. 364-375).

This villa appears to have been occupied by a well-to-do owner, whose standard of life was both comfortable and tasteful —judging by the evidence of the building foundations and of the objects found. He kept warm in winter. He bathed luxuriously. He liked beautiful objects—such as fine glass vessels, Samian pottery, silver spoons and bronze-plated boxes. His daily life was secure. No defence was needed against a possible enemy. His land was cultivated, and he kept cattle, horses, sheep, pigs, goats and dogs. He played games in which bone squares engraved with pips were used. He wrote on wax tablets with iron styli. He wore shoes, the soles of which were fortified by iron cleets. His women-folk plied bronze needles (but no spindle whorls were found), and adorned their hair with long bone pins, their arms with bangles of engraved bronze and of Kimmeridge shale, their ears with bronze rings, and they used bronze brooches. Pax Romana ruled in this part of Britain during the above period. (See " Excavations at East Grimstead, Wiltshire," by the writer; Chiswick Press, 3s. 6d.)

ROCKBOURNE DOWN, HANTS.

A Poor Man's Farm Settlement.

This Roman farm covered an area of about 96 acres, surrounded by a broad low bank with ditches on either side, and lying on a gentle slope at the bottom of which is Spring Pond. On the top north-eastern side of this enclosure, a four-sided quarter was revealed by the colour of the down grass, which marked 48 yards N.E. side, 30 yards N.W. side, 48 yards S.W. side, and 40 yards S.E. side. Excavation proved that beneath the tell-tale grass lay ditches about 6 feet wide: the N.E. and S.E. ditches being entirely filled up with collected flints on which well drained surface the farm workers' huts (of wooden construction and probably thatched) appear to have been raised: recurring hearths and ash circles, burnt clay, cooking stones in quantity, potsherds, quernstones, iron tools and nails and cleets, indicated considerable, poor habitation on the lines of these two ditches. At the northern end of the N.E. ditch lay a mass of ox and horse bones, and beyond them a deep stoke-hole which led to a well preserved hypocaust built of heathstone and flint, with flues bridged by large slabstones—most of which had foundered on to the ashes lying below—in which charred wheat grains and burnt bones were found. This, and the mass of animal bones found outside the stoke hole, indicate the usage of this hypocaust as a cooking place for the farm workers. Beyond and above the sunken hypocaust was a sunken fireplace that appeared to belong to a hut site. The remaining sides of the ditched quarter yielded no signs of habitation, and were not filled up with collected flints.

The enclosure bank and ditches were then excavated throughout a length of 48 feet, and large post-holes for a stockade fence were found at a distance of 15 feet apart; seven of these were proved. At one place in the line of the stockade two post-holes were found 5 feet apart (presumably for a gate) and here causeways of collected flints crossed both inner and outer ditches. These causeways gave access to and from the enclosure for the Romanised dwellers in a small farmhouse which lay in a hollow of the down, 70 paces distant N.E. It was surrounded by a drain ditch to carry off surface water from the upper sloping sides of the hollow, at the bottom of which a puddled chalk floor was found 19 feet by 9 feet, walled around by flint foundations bedded in mortar, 1 foot 6 inches wide, except on the N.E. side, where they were 3 feet 6 inches wide. On the S.W. side of this small house a large and deep stoke hole was found which communicated with two flues running in skew direction under the chalk floor, and ending in cross " T " flues which ran up inside the thick N.E. wall, with a chimney for each at the corners of this side. These flues were full of ashes and soot, and the southern-most was much fuller than the other. This flue appeared to warm a much-used living room, a surmise further supported by the discovery of a raised chalk doorstep and pathway on the outside S.E. of the house. The pathway led to a small " T " shaped hypocaust—24 feet distant from the house—which apparently was used as a bake-house, judging from the charred wheat found inside, and the bone fragments outside. The ash and soot in all the flues mentioned above retained a strong, acrid smell of burnt stuff (when first uncovered)—as though the wood fires that made these ashes had died down recently, instead of 1,600 years ago.

All the buildings described above were roofed with stone tiles of the usual Roman diamond shape. Nine coins in all were found, dating from Gallienus to Valentinian I. (cf. East Grimstead).

This small house was probably occupied by the overseer of the farm settlement adjoining, and was a poor man's site. He certainly lived in a well-warmed and drained house, and had a convenient, detached bake-house : but here we find no bath-house, no mosaic floors supported by tile pilæ, no hard pink mortar, painted wall plaster, box-flue nor flooring tiles, window glass nor fragments of glass vessels, no brooches, bone pines, stili nor bronze plating, few coins and oyster shells. Here, as at East Grimstead (9 miles distant) no defences were needed against marauders. (See " Excavations on Rockbourne Down," by the writer; Chiswick Press, 2s. 6d.))

ISLANDS THORNS, NEW FOREST.

A Roman Potter's Hut.

The site of this hut is on a grassy plot, outside Islands Thorns Inclosure on Cooper's Hill. The soil is plateau gravel, and a high spring rises 50 yards S.W. from the site. Humps and hollows, with potsherds cast up on molehills, led me to excavate here and to discover the undisturbed ground plan of a Roman potter's hut. A puddled clay floor was found, lying 9 inches in places, and 1 foot 3 inches in others, below the top surface. Within this puddled clay floor area 6 post-holes were found, delimiting the floor size of the hut—i.e., 15 feet 6 inches in length, and 11 feet in width; fragments of decayed wood adhered to the sides and bottoms of these post-holes, in which, lean-to principals appear to have been fixed, tied together atop by a ridge pole, with sidings of wattle work covered by skins or turves as a roof, and with a ramp of clay piled up round the outside base of the wattle work, in order to deflect rain water falling on the roof from soaking into the hut floor, and to give support and warmth. This ramp of clay had subsided unevenly as the principals decayed, giving a top surface appearance of humps surrounding an oval hollow. Excavation revealed the difference between the loose rubble clay of the ramp and the trodden underlying puddled clay floor below.

The change in level of the floor noted above proved to be owing to one side of the hut floor being 6 inches higher than that of the other. The raised level (4 feet wide) was probably the sleeping place; close to it, on the east limit of the hut, a sunken fireplace was found, buried beneath the ruins of a burnt clay chimney; a toy beaker (perfect) and flagon (almost perfect) were found in the ashes of this fireplace—suggesting children and affection. Outside, a sunken oven cooking place (without flue) lay 4 feet distant from the hut, also with a ruined chimney, below which was an accumulation of burnt stuff. No bones were found because the acids in New Forest soil destroy bone. The entrances of this hut were probably at each end of its length—one giving access to the outside cooking place, the other to a kiln site 18 feet distant S.W.

Besides the toy pottery mentioned, broken potsherds of cooking basins, platters, mortaria, storage pots, thumb-pot beakers, and flagons, a few stone tools and polishers and one nail were the only relics found. Cooking stones do not seem to have been used here.

This potter's hut does not suggest Roman planning, but rather, a high standard of gypsy comfort; yet by their pottery productions we know that its occupants were Romanised to a certain extent.

The clay floor extended towards the S.W. and was followed; it led into an irregular circle 24 feet in diameter; outside this circle the clay floor lay about 1 foot below the top surface, inside, it gradually descended to 2 feet 6 inches below the same, where signs of fire multiplied, i.e., lumps of vitrified burnt clay—sometimes vent-holed, showing that a kiln oven floor had been destroyed here, burnt black earth mingled with potsherds, heathstones burnt wine red, etc.; but the amount of débris seemed to indicate that this kiln had not had long-time usage. The pottery found was of usual late New Forest type.

In the absence of coin finds here, we turn to the Islands Thorns Inclosure kiln site, 300 yards distant E., where J. P. Bartlett found coins of Julian (A.D. 361-363), and of Valens (A.D. 364-378); from which we may suppose that the potters who occupied the hut described above worked in the latter half of the 4th century A.D.

Obituary Notices.

Mr. R. A. de Paiva.

A very great loss has been sustained by the Society, and a wide circle of members will mourn the decease of a personal friend. Mr. de Paiva had been closely identified with all the activities of the Society, a ready and helpful, as well as a sagacious, colleague. The Society was, in fact, his absorbing occupation, its interest his chief care, its welfare his main object in his later life. He had been a member for 21 years, and for 14 of these he had fulfilled honorary secretarial duties, sometimes jointly, but principally with undivided authority. In his later days he compiled a singularly complete history of the Society, embracing every Paper read before it and every Excursion carried out since its formation, as well as a list of members who had held any kind of office. His death took place barely eighteen months after he had received, on celebrating his 84th birthday, a testimonial expressing keen appreciation of his services as well as the regard and esteem which he had won on all hands by his unfailing courtesy and good-will. New members were sure of a cordial reception by him, and could count upon his help and advice in all matters pertaining to the Society and its functions. He managed all details of Excursions with consummate skill, and was indefatigable in his efforts to secure their popularity and success. His energy and agility were indeed, in one of his years, no less than amazing, and his organization inspired such complete confidence that one was apt to forget the really hard work and close attention to detail that underlay the smooth progress of the day. And through all his official operations there shone his transparent sincerity, his kindness of heart and his absorbing devotion to the Society, of which he was, in the fullest sense, a true friend.

Mr. R. Y. Banks.

Another gap is left in the ranks of the original members of the Society by the death of Mr. Banks, an outstanding personality, keen and active in its best interests and more especially in the Section with which his work was most closely associated. In the Society's very earliest days, he founded the Photographic branch, of which he was chairman from 1905 to 1908, and afterwards from 1914 to his demise, enlarging its scope from 1916 by special attention to Records in Bournemouth and the neighbouring counties. His artistic pictorial work was a delight to members and he was always ready to help lecturers by making illustrative lantern slides. In this direction he spared no pains; it was just a pleasure to him to do it. Of his

R. A. DE PAIVA.

BRITISH
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municipal activities this is perhaps not the place to speak at length; but it must at least be chronicled that he served the Borough well as Councillor and Alderman, and conspicuously as chairman of several of the most important Committees and as a Governor of Bournemouth School. Truly a man of affairs and a loyal citizen and colleague.

Rev. Professor G. Henslow, M.A., F.L.S., F.G.S.

Professor Henslow, though a member of the Society from 1911, had held no office, his advanced age (he died in his 91st year), entitling him to immunity from active work in its interests. But his life had been full of vigour and of various occupations. In his earlier years, after ordination, he held several cures and a couple of headmasterships, and it was not till 1866 that he found his true vocation as a populariser of the study of Botany, a taste for which he would seem to have inherited from his father, who had held the Professorship in the University of Cambridge. On this subject he published a number of elementary text-books for students, and his lectures before the Royal Horticultural Society were characterised by clearness and fluency. He was indeed an exponent rather than an investigator, and a popular lecturer at Saint Bartholomew's Medical School, the Birkbeck Institute and Queen's College, London. The Royal Horticultural Society conferred upon him the Honorary Professorship of Botany, and, in 1897 one of its original "Victoria Medals of Honour."

The Society has also to mourn the loss of Mr. T. J. P. Jeffery, who had been a member of the Council from 1916 to 1919, and of Mr. H. J. Ellis, who had done admirable service for many years as Secretary of the Archæological Section, and as librarian from 1913 to 1919, and who had been a member of the Council from 1913 till his death.

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Historical Lists of Officers of the Society.

COMPILED BY THE LATE MR. R. A. DE PAIVA.

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1904-5—1905-6	G. E. J. Crallan, M.A., M.B., M.R.C.S.
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1913-14 — 1914-15 —1915-16	Sir Daniel Morris, K.C.M.G., J.P., M.A., D.Sc., D.C.L., F.L.S
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1924-25 — 1925-26	Hubert Painter, B.Sc., F.C.S.
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1906-7	H. J. Waddington, F.L.S.
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Chairmen of Council

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1911-14	Sir Daniel Morris, K.C.M.G., J.P., M.A., D.Sc., D.C.L., F.L.S.

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1922-	J. R. Ralph Smythe, J.P.

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1907-8	J. R. L. Dixon, M.R.C.S., L.R.C.P., and H. Backhouse, F.R.H.S.
1908-10	J. R. L. Dixon, M.R.C.S., L.R.C.P., and Col. E. E. Markwick, C.B., C.B.E., F.R.A.S.
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1910-11	H. Le Jeune.
1911 Nov.- Feb. 1912	Sir A. Brooke Pechell, Bart., M.B.
1912 Apr.- Mar. 1914	T. Michell, M.I.C.E.
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1914 Oct.- July 1917	R. A. de Paiva and T. Capper, M.A., B.SC., Joint Secretaries.
1917 July-25 ...	R. A. de Paiva.
1925-26	R A. de Paiva and Rev. A. G. Yates, M.A., R.N., Joint Secretaries.
1926-	Rev. A. G. Yates, M.A., R.N.

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May Mar. 1912-1914 ...	R. A. de Paiva.
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Assistant Secretary

1909-	J. F. Spencer.

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1913-1919 ...	H. J. Ellis.
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1920 Mar.-Jan. 1921	Rev. C. O. S. Hatton, B.A., F.L.S.
1921 Jan.- ...	Claude Lyon.
1923-	Miss A. G. Veale, Hon. Assistant Librarian.

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1912-20	Hubert Painter, B.Sc., F.C.S.
1920-25	F. B. Taylor, B.A.
1925-	J. R. White, M.A.

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1921-Dec. 1922 ...	No Curator.
1923 Jan.-Nov. ...	Rev. C. O. S. Hatton, B.A., F.L.S., and Howard Lacey, B.A
1923 Dec.- ...	Rev. C. O. S. Hatton, B.A., F.L.S.

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1924-26	Col. J. R. Dodd, M.D., F.R.C.S.
1926-	R. K. Cardew, B.A.

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1925-26	R. K. Cardew, B.A.

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1925-26	G. E. J. Crallan, M.A., M.B., M.R.C.S.

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1922-24	B. M. Peek, M.A., F.R.A.S.

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1922-26	Howard Lacey, B.A.
1926-	Rev. C. O. S. Hatton, B.A., F.L.S.

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1910-11	A. SCOTT, B.A.
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1916-	CLAUDE LYON.

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1905-6	THE MARQUIS DE TREVELEC.
1906-14	W. T. ORD, F.G.S.
1914-17	W. MUNN RANKIN, M.SC., B.SC.
1917-18	H. KIDNER, F.G.S.
1918-20	W. MUNN RANKIN, M.SC., B.SC.
1920-23	W. J. WOODHOUSE, A.C.P., M.I.H.
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1912-13	G. BRUMELL, A.R.I.B.A.
1913-14	No Chairman.
1914-16	R. Y. BANKS.

Photographic and Record

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1925-	W. DIESELHORST, A.M.I.C.E.

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1908-10	A. W. THOMAS, M.D., M.R.C.S.
1913-14	W. MUNN RANKIN, M.SC., B.SC.
1922-	F. G. PENROSE, M.D., F.R.C.P., F.Z.S., M.B.O.U.

Microscopical

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1913-14	H. B. WELLS, F.R.M.S.
1922—	F. B. TAYLOR, B.A.

Zoological and Microscopical

1910-11	H. B. WELLS, F.R.M.S. A. W. THOMAS, M.D., M.R.C.S.
1911 Mar.-12	G. E. J. CRALLAN, M.A., M.B., M.R.C.S.
1911-13	H. B. WELLS, F.R.M.S.
1914-16	T. B. GOODALL, F.R.C.V.S., F.L.S.
1916-22	F. G. PENROSE, M.D., F.R.C.P., F.Z.S., M.B.O.U.

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Title changed from Committee in 1910.

Many of these also had seats on the Council ex-officio either before or after their election or co-option. Their names are marked*

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1906-7—1908-	*Backhouse, H., F.R.H.S.
1914-15	*Banks, R. Y.
1905-6	Bax, P. B. Ironside.
1904	Bond, Dr. Eleanor.
1919-20	Boul, Mrs.
1904-8	*Brownen, G., F.C.S.
1906-8	*Brumell, G., A.R.I.B.A.
1906-8	Buckland, Dr. Frank.
1921-22	Cardew, R. K., B.A.
1909-11	Chandler, S. Whitty, B.A.
1905-6	Clements, Lt.-Col. W. G.
1904	Clift, Dr.
1921-	Curme, Mrs.
1905-10	Curtis, W. Parkinson, F.E.S
1923-26	*Dodd, Col. J. R., M.D., F.R.C.S.
1914-16	Druitt, J., J.P.
1916-17	Dyer, J. Herbert.
1919-25	*Ellis, H. J.
1910-	French, J. M.
1914-17	Furlong, R. O'B., C.B., M.A.
1919-Aug. 21	*George, A. D.
1904	Giles, Dr.
1904-6	*Goodall, T. B., F.R.C.V.S., F.L.S.
1918-20	Gosse, W., M.D., D.P.H.
1921-23	Gray, Arthur.
1910-15	Hamilton, G. G., M.B., F.R.C.S.
1916-18 — 1922-23	Hatton, Rev. C. O. S., B.A., F.L.S.
1911-16	Hill, S. McCalmont, D.C.L.
1926-	Hurry, J. B., M.A., M.D.
1916-19	Jeffery, T. J. P.
1906-10 — 1911-18	*Le Jeune, H.
1926-	Longbottom, F. W., F.R.A.S.
1914-16	*Lyon, Claude.
1907-8	*Markwick, Col. E. E., C.B., C.B.E., F.R.A.S.
1907-8	Maude, W. C., J.P.
1910-16	*Morris, Sir Daniel, K.C.M.G., J.P., M.A., D.Sc., LL.D., F.L.S.
1910-11	*Michell, T., M.I.C.E.
1916-19	*Neale, Joseph, B.A.
1905-6	*Ord, W. T., F.G.S.
1904	Parish, Miss
1915-16	*Penrose, F. G., M.D., F.R.C.P., F.Z.S., M.B.O.U.
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1919-	Rooke, Miss S. G.
1918-19	Rothwell, Mrs.
1908-9	Scott, A., B.A.
1908-	*Scott, J. H., M.E., M.I.M.C.E
1904-26	Sherring, R. Vowell, F.L.S.
1920-26	Simpson, Rev. E. J. Douglas, M.A.
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1923-	*Spencer, J. F.
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1918-20	*Taylor, F. B., B.A.
1921-23	*Wallace, W. G.
1907-10	*Wells, H. B., F.R.M.S.
1906-7 — 1916-20 1923-	*Woodhouse, W. J., A.C.P., M.I.H.

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1919 Nov.-Feb. 1920	Housing.
1920 Feb.-Oct. 1922	Housing and Finance
1922- ...	Finance and General Purposes.

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1918 Nov.-Oct. 1919	Hubert Painter, b.sc., f.c.s.
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1909-14	H. Sutton and E. Bicker.
1914-15	E. Bicker and H. Backhouse, f.r.h.s.
1915-17	E. Bicker and E. W. Barlow, f.r.a s.
1917-	E. Bicker and C. H. Blackett.

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Chairman of Entomological Section (Howard Lacey, b.a.)
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